

Supplementary material

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Peregrine Falcon (*Falco peregrinus*) may affect local demographic trends of wetland
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Supplement 1. Diet of the Peregrine Falcon (*Falco peregrinus*) based on prey remain collections in the breeding sites in Simo municipality, south western Lapland, Finland during 1992–2009. Fresh samples are accumulated remains of the collection year, old samples are remains from the previous year(s). Earlier diet of the Peregrine Falcon in northern Finland from the 1950–60's by Sulkava's (1968) is presented for comparison for those species found in Simo study area total sum including, however, all specimens found in the study.

	Fresh	Old	% fresh	% old	Sulkava (1968) %
Arctic Loon	1	2	0.1	0.4	–
Crested Grebe	0	1	0.0	0.2	–
Hornerd Grebe	1	1	0.1	0.2	0.2
Bean Goose	2	3	0.2	0.6	–
Mallard	46	11	4.4	2.2	7.9
Pintail	5	2	0.5	0.4	1.7
Wigeon	12	6	1.1	1.2	0.8
Big Anas sp.	7	5	0.7	1.0	–
Shoveler	1	1	0.1	0.2	0.2
Garganey	3	1	0.3	0.2	–
Teal	166	125	15.7	24.5	12.1
Tufted Duck	18	8	1.7	1.6	0.6
Goldeneye	30	8	2.8	1.6	1.9
Black Scoter	0	1	0.0	0.2	–
Goosander	1	–	0.1	0.0	–
Red-breasted Merganser	4	1	0.4	0.2	0.2
Mergus sp.	2	0	0.2	0.0	–
Water bird sp.	5	9	0.5	1.8	4.2
Goshawk	1	0	0.1	0.0	–
Sparrowhawk	1	0	0.1	0.0	–
Hen Harrier	1	3	0.1	0.6	–
Kestrel	3	0	0.3	0.0	–
Raptor sp.	0	2	0.0	0.4	–
Willow Grouse	10	8	0.9	1.6	2.9
Black Grouse	1	3	0.1	0.6	1.5
Capercaillie fem.	1	0	0.1	0.0	–
Hazel Grouse	1	0	0.1	0.0	–
Coot	1	3	0.1	0.6	–
Rallidae sp.	0	1	0.0	0.2	–
Oystercatcher	0	1	0.0	0.2	–
Lapwing	22	10	2.1	2.0	6.9
Golden Plover	21	21	2.0	4.1	0.4
Woodcock	99	37	9.4	7.3	1.9
Snipe	32	10	3.0	2.0	1.7
Jack Snipe	2	0	0.2	0.0	–
Curlew	65	20	6.2	3.9	4.0
Whimbrel	53	30	5.0	5.9	2.7
Numenius sp.	4	1	0.4	0.2	–
Wood Sandpiper	29	5	2.7	1.0	2.9
Greenshank	38	18	3.6	3.5	0.2
Spotted Redshank	5	2	0.5	0.4	–

Redshank	2	0	0.2	0.0	–
Ruff	21	4	2.0	0.8	9.8
Wader sp.	21	7	2.0	1.4	2.1
Black-headed Gull	62	47	5.9	9.2	3.5
Common Gull	22	9	2.1	1.8	0.4
Lesser Black-backed Gull	3	1	0.3	0.2	0.2
Herring Gull	19	5	1.8	1.0	2.3
Little Gull	1	1	0.1	0.2	–
Gull sp.	1	0	0.1	0.0	–
Pomarine Skua	1	0	0.1	0.0	–
Skua sp.	2	1	0.2	0.2	–
Arctic Tern	1	1	0.1	0.2	–
Common Tern	2	0	0.2	0.0	0.6
Tern sp.	14	2	1.3	0.4	–
Wood Pigeon	41	27	3.9	5.3	3.3
Pigeon sp.	0	1	0.0	0.2	–
Cuckoo	16	2	1.5	0.4	4.4
Short-eared Owl	6	5	0.6	1.0	0.4
Hawk Owl	1	1	0.1	0.2	0.2
Owl sp.	1	0	0.1	0.0	–
Great-spotted Woodpecker	5	2	0.5	0.4	0.8
Black Woodpecker	1	0	0.1	0.0	0.2
Hooded Crow	31	14	2.9	2.7	1.9
Magpie	1	0	0.1	0.0	0.2
Jay	1	0	0.1	0.0	0.2
Eurasian Nutcracker	1	0	0.1	0.0	–
Mistle Thrush	1	1	0.1	0.2	–
Fieldfare	67	8	6.4	1.6	2.3
Redwing	4	1	0.4	0.2	1.3
Song Thrush	5	0	0.5	0.0	2.7
Trush sp.	3	7	0.3	1.4	–
Tree Pipit	4	0	0.4	0.0	–
Wagtail	0	1	0.0	0.2	–
Small passerine sp.	2	0	0.2	0.0	0.2
Number	1055	510	100	100	479

Supplement 2. Results of composition analysis. Three plus or minus signs denote significant difference in the preference between species in rows and columns. Availability is based on density (ind. / km²). Explanations for abbreviations of Latin names: Anas = Big Anas species pooled, Acre = Teal, Aful = Tufted Duck, Bgla = Goldeneye, Vvan = Lapwing, Papr = Golden Plover, Cgal = Snipe, Narq = Curlew, Npha = Whimbrel, Tgla = Wood Sandpiper, Tneb = Greenshank, Cpug = Ruff, Lrid = Black-headed Gull, Lcan = Common Gull, Larq = Herring Gull.

	Anas	Acre	Aful	Bgla	Vvan	Papr	Cgal	Narq	Npha	Tgla	Tneb	Cpug	Lrid	Lcan	Larq	Rank
Anas	0	+++	-	-	-	-	---	-	+	---	---	---	+++	+	---	11
Acre	---	0	---	---	---	---	---	---	---	---	---	---	+++	---	---	14
Aful	+	+++	0	+	+	+	---	-	+	---	---	---	+++	+	---	7
Bgla	+	+++	-	0	-	-	---	-	+	---	---	---	+++	+	---	10
Vvan	+	+++	-	+	0	+	---	-	+	---	---	---	+++	+	---	8
Papr	+	+++	-	+	-	0	---	-	+	---	---	---	+++	+	---	9
Cgal	+++	+++	+++	+++	+++	+++	0	+++	+++	---	-	-	+++	+++	-	5
Narq	+	+++	+	+	+	+	---	0	+	---	---	---	+++	+	---	6
Npha	-	+++	-	-	-	-	---	-	0	---	---	---	+++	+	---	12
Tgla	+++	+++	+++	+++	+++	+++	+++	+++	+++	0	+++	+++	+++	+++	+++	1
Tneb	+++	+++	+++	+++	+++	+++	+	+++	+++	---	0	-	+++	+++	---	4
Cpug	+++	+++	+++	+++	+++	+++	+	+++	+++	---	+	0	+++	+++	-	3
Lrid	---	---	---	---	---	---	---	---	---	---	---	---	0	---	---	15
Lcan	-	+++	-	-	-	-	---	-	-	---	---	---	+++	0	---	13
Larq	+++	+++	+++	+++	+++	+++	+	+++	+++	---	+++	+	+++	+++	0	2

Supplement 3. Changes of 41 wetland bird species in bogs at local (Simo municipality in south-east Lapland) and in countrywide scales (Rajasärkkä 2010). Local trend is calculated from bird counts number by GLMM-modelling birds found per km as a response variable, year as a covariate and bog id as a random factor. Country-wide changes are changes presented in percentages. Local changes in percentages (Rauhala 2009) in ten bogs are also presented for comparison. Standardised values from local trend and countrywide changes are calculated for comparisons between local and countrywide scales.

	Local trend	Countr y %	Local %	Countr y stand.	Local stand.
Arctic Loon	-0.024	70	-	1.823	-0.025
Red-throated Loon	0.059	-	-	-	1.418
Horned Grebe	-0.061	-70	-	-1.592	-0.721
Whooper Swan	0.028	-	-	-	0.865
Bean Goose	0.006	-	-	-	0.473
Teal	0.001	-15	-	-0.250	0.384
Mallard	-0.004	20	-	0.604	0.295
Pintail	-0.122	-65	-	-1.470	-1.808
Widgeon	-0.105	-33	-	-0.689	-1.505
Tufted Duck	0.025	-55	-	-1.226	0.812
Goldeneye	0.009	0	-	0.116	0.527
Black Scoter	-0.037	-	-	0.116	-0.293
Smew	0.026	0	-	0.116	0.830
Willow Grouse	-0.042	-55	-	-1.226	-0.382
Hen Harrier	-0.026	15	50	0.482	-0.095
Crane	0.026	50	-	1.335	0.830
Golden Plover	0.041	4	25	0.213	1.097
Lapwing	-0.079	-38	-63	-0.811	-1.042
Ruff	-0.111	-74	-72	-1.689	-1.612
Broad-billed Sandpiper	0.098	-29	-28	-0.592	2.113
Whimbrel	-0.033	67	-34	1.750	-0.222
Curlew	-0.007	10	20	0.360	0.242
Snipe	-0.020	-27	-4	-0.543	0.010
Jack Snipe	-0.072	-34	-25	-0.714	-0.917
Greenshank	-0.015	28	-32	0.799	0.099
Spotted Redshank	0.097	-2	60	0.067	2.095
Redshank	-0.122	-33	-80	-0.689	-1.808
Wood Sandpiper	-0.010	-5	-24	-0.006	0.188
Red-necked Phalarope	-0.092	-51	-88	-1.128	-1.273
Black-headed Gull	-0.179	36	-	0.984	-2.824
Common Gull	0.019	40	-	1.096	0.705

Herring Gull	0.022	0	–	0.116	0.758
Common Tern	–0.101	36	–	0.984	–1.434
Short-eared Owl	–	105	–	2.677	–
Hooded Crow	–0.013	6	–	0.262	0.135
Meadow Pipit	0.009	–18	23	–0.323	0.527
Yellow Wagtail	–0.021	–31	–56	–0.640	–0.008
Wagtail	0.055	–17	20	–0.299	1.347
Redstart	0.026	22	17	0.652	0.830
Sedge Warbler	–0.116	–28	40	–0.567	–1.701
Reed Bunting	–0.033	–4	–10	0.018	–0.222
