

Supplementary material 1

Table 1. Bird population in the forests, swamps and settlements of the Uvat region

Species	Small-leaved forests (birch-aspen)		Mixed forests (spruce-pine-fir- birch)		Swamps		Settlements	
	N	D	N	D	N	D	N	D
<i>Anas platyrhynchos</i> Linnaeus, 1758	-	-	-	-	-	-	0.60	0.08
<i>Anas querquedula</i> Linnaeus, 1758	-	-	0.48	0.1	-	-	2.78	0.4
<i>Aythya fuligula</i> (Linnaeus, 1758)	-	-	0.19	0.04	-	-	1.33	0.2
<i>Pandion haliaetus</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.13	0.02
<i>Pernis apivorus</i> (Linnaeus, 1758)	0.59	0.2	-	-	-	-	-	-
<i>Milvus migrans</i> (Boddaert, 1783)	0.11	0.04	0.58	0.1	0.04	0.02	0.26	0.03
<i>Circus aeruginosus</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.006	0.008
<i>Accipiter nisus</i> (Linnaeus, 1758)	4.94	1.6	0.53	0.1	0.04	0.02	-	-
<i>Buteo buteo</i> (Linnaeus, 1758)	-	-	0.04	0.007	-	-	0.13	0.02
<i>Aquila clanga</i> Pallas, 1811	0.01	0.001	-	-	-	-	1.20	0.16
<i>Haliaeetus albicilla</i> (Linnaeus, 1758)	-	-	0.53	0.1	-	-	0.07	0.008
<i>Falco subbuteo</i> Linnaeus, 1758	-	-	0.003	0.000004	-	-	-	-
<i>Falco vespertinus</i> Linnaeus, 1766	-	-	-	-	-	-	0.11	0.01
<i>Tetrao urogallus</i> Linnaeus, 1758	-	-	0.14	0.03	-	-	-	-

Species	Small-leaved forests (birch-aspen)		Mixed forests (spruce-pine-fir- birch)		Swamps		Settlements	
	N	D	N	D	N	D	N	D
<i>Tetrastes bonasia</i> (Linnaeus, 1758)	26.67	8.6	3.75	0.8	-	-	-	-
<i>Coturnix coturnix</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.34	0.04
<i>Vanellus vanellus</i> (Linnaeus, 1758)	-	-	0.09	0.02	-	-	-	-
<i>Tringa ochropus</i> Linnaeus, 1758	-	-	4.01	0.9	-	-	0.22	0.03
<i>Actitis hypoleucos</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.77	0.09
<i>Limosa limosa</i> (Linnaeus, 1758)	-	-	-	-	-	-	3.00	0.40
<i>Larus heuglini</i> Bree, 1876	-	-	-	-	-	-	0.32	0.04
<i>Sterna hirundo</i> Linnaeus, 1758	0.05	0.02	0.03	0.006	-	-	0.01	0.002
<i>Columba palumbus</i> Linnaeus, 1758	-	-	7.26	1.5	-	-	-	-
<i>Columba livia</i> J.F. Gmelin, 1789	-	-	-	-	-	-	5.41	0.70
<i>Streptopelia orientalis</i> (Latham, 1790)	-	-	7.21	1.5	-	-	-	-
<i>Cuculus optatus</i> Gould, 1845	0.11	0.04	-	-	-	-	-	-
<i>Asio otus</i> (Linnaeus, 1758)	-	-	-	-	-	-	18.39	2.40
<i>Caprimulgus europaeus</i> Linnaeus, 1758	-	-	0.14	0.03	-	-	-	-
<i>Picus canus</i> J.F. Gmelin, 1788	4.44	1.4	0.9	0.2	-	-	-	-
<i>Dryocopus martius</i> (Linnaeus, 1758)	0.89	0.3	2.65	0.5	-	-	-	-

<i>Dendrocopos major</i> (Linnaeus, 1758)	2.35	0.7	25.37	5.4	2.97	2.7	-	-
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Species	Small-leaved forests (birch-aspen)		Mixed forests (spruce-pine- fir-birch)		Swamps		Settlements	
	N	D	N	D	N	D	N	D
<i>Dendrocopos minor</i> (Linnaeus, 1758)	-	-	0.66	0.1	-	-	-	-
<i>Riparia riparia</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.02	0.003
<i>Hirundo rustica</i> Linnaeus, 1758	-	-	-	-	-	-	14.08	1.8
<i>Anthus trivialis</i> (Linnaeus, 1758)	13.33	4.3	11.81	2.5	-	-	21.33	2.8
<i>Anthus hodgsoni</i> Richmond, 1907	-	-	12.61	2.7	2.98	2.7	-	-
<i>Motacilla flava</i> Linnaeus, 1758	-	-	1.93	0.4	-	-	125.24	16.2
<i>Motacilla alba</i> Linnaeus, 1758	-	-	-	-	-	-	44.28	5.7
<i>Lanius excubitor</i> Linnaeus, 1758	-	-	-	-	0.04	0.02	-	-
<i>Oriolus oriolus</i> (Linnaeus, 1758)	-	-	-	-	-	-	19.16	2.4
<i>Sturnus vulgaris</i> Linnaeus, 1758	-	-	-	-	-	-	293.81	38.1
<i>Perisoreus infaustus</i> (Linnaeus, 1758)	-	-	2.12	0.4	-	-	-	-
<i>Garrulus glandarius</i> (Linnaeus, 1758)	-	-	0.56	0.1	-	-		
<i>Pica pica</i> (Linnaeus, 1758)	0.82	0.3	2.42	0.5	-	-	28.43	3.7
<i>Nucifraga caryocatactes</i> (Linnaeus, 1758)	15.40	4.9	22.25	4.7	15.36	13.8	16.87	2.2
<i>Corvus monedula</i> Linnaeus, 1758	-	-	-	-	-	-	7.20	0.9
<i>Corvus cornix</i> Linnaeus, 1758	9.88	3.2	1.22	0.2	-	-	28.39	3.7

<i>Corvus corax</i> Linnaeus, 1758	0.15	0.05	0.09	0.01	-	-	-	-
Species	Small-leaved forests (birch-aspen)		Mixed forests (spruce-pine- fir-birch)		Swamps		Settlements	
	N	D	N	D	N	D	N	D
<i>Bombycilla garrulus</i> (Linnaeus, 1758)	-	-	-	-	0.09	0.08	-	-
<i>Acrocephalus dumetorum</i> Blyth, 1849	-	-	1.93	0.4	-	-	-	-
<i>Sylvia borin</i> (Boddaert, 1783)	8.89	2.9	3.60	0.8	-	-	-	-
<i>Phylloscopus trochilus</i> (Linnaeus, 1758)	-	-	11.71	2.5	-	-	-	-
<i>Phylloscopus collybita</i> (Vieillot, 1817)	37.08	11.9	18.5	3.9	2.98	2.7	2.98	2.7
<i>Phylloscopus trochiloides</i> (Sundevall, 1837)	1.11	0.4	5.74	1.2	-	-		
<i>Ficedula hypoleuca</i> (Pallas, 1764)	-	-	3.60	0.8	-	-		
<i>Saxicola rubetra</i> (Linnaeus, 1758)	3.29	1	-	-	-	-		
<i>Saxicola torquata</i> (Linnaeus, 1766)	-	-	-	-	-	-	5.29	0.7
<i>Phoenicurus phoenicurus</i> (Linnaeus, 1758)	4.94	1.6	1.45	0.3	-	-	8.77	1.1
<i>Erithacus rubecula</i> (Linnaeus, 1758)	11.03	3.5	0.9	0.1	11.91	10.7	-	-
<i>Turdus pilaris</i> Linnaeus, 1758	-	-	5.80	1.2	19.05	17.1	16.93	2.2
<i>Turdus merula</i> Linnaeus, 1758	-	-	7.21	1.5	-	-	-	-
<i>Turdus iliacus</i> Linnaeus, 1766	-	-	0.9	0.2	-	-	-	-
<i>Turdus viscivorus</i> Linnaeus, 1758	-	-	3.60	0.8	-	-	1.53	0.2
<i>Aegithalos caudatus</i>	-	-	50.02	10.7	-	-	-	-

(Linnaeus, 1758)

Parus montanus **77.24** **24.8** **60.15** **12.8** 4.76 4.3 - -
 Baldenstein, 1827

Species	Small-leaved forests (birch-aspen)		Mixed forests (spruce-pine- fir-birch)		Swamps		Settlements	
	N	D	N	D	N	D	N	D
<i>Parus ater</i> Linnaeus, 1758	-	-	3.60	0.8	-	-	-	-
<i>Parus major</i> Linnaeus, 1758	12.33	3.9	48.95	10.4	-	-	-	-
<i>Sitta europaea</i> Linnaeus, 1758	44.44	14.2	25.1	5.3	-	-	-	-
<i>Certhia familiaris</i> Linnaeus, 1758	1.11	0.4	-	-	-	-	-	-
<i>Passer montanus</i> (Linnaeus, 1758)	-	-	-	-	-	-	98.29	12.7
<i>Fringilla coelebs</i> Linnaeus, 1758	9.96	3.2	60.68	12.9	19.05	17.1	-	-
<i>Fringilla montifringilla</i> Linnaeus, 1758	19.75	6.3	-	-	-	-	-	-
<i>Chloris chloris</i> (Linnaeus, 1758)	-	-	1.93	0.4	-	-	6.13	0.8
<i>Carduelis carduelis</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.23	0.03
<i>Pyrrhula pyrrhula</i> (Linnaeus, 1758)	1.11	0.4	42.27	9	26.79	24.1	0.05	0.01
<i>Coccothraustes coccothraustes</i> (Linnaeus, 1758)	-	-	1.06	0.2	-	-	-	-
<i>Emberiza citrinella</i> Linnaeus, 1758	-	-	0.48	0.1	-	-	-	-
<i>Emberiza leucocephala</i> S.G. Gmelin, 1771	-	-	0.48	0.1	5.28	4.7	-	-
Total	312.02	100	468.99	100	111.30	100	771.12	100

Notes. N – abundance, ind/km², D – Percentage; «-» the species was not registered; the bold font indicates the dominant species.

Table 2. Avifauna of floodplain and meadow complexes in the riverine part of the River Irtysh

Species	Floodplain of the River Irtysh		Water reservoirs (lakes, oxbow)		Flood meadows		Meadows- coppices	
	N	D	N	D	N	D	N	D
<i>Gavia arctica</i> (Linnaeus, 1758)	-	-	0.32	0.4	-	-	-	-
<i>Podiceps auritus</i> (Linnaeus, 1758)	8.70	1.4	-	-	-	-	-	-
<i>Ardea cinerea</i> Linnaeus, 1758	-	-	1.73	2.4	-	-	-	-
<i>Cygnus cygnus</i> (Linnaeus, 1758)			2.92	4.1	-	-	-	-
<i>Anas platyrhynchos</i> Linnaeus, 1758	14.82	2.5	6.58	9.1	-	-	-	-
<i>Anas penelope</i> Linnaeus, 1758	-	-	0.44	0.6	-	-	-	-
<i>Aythya fuligula</i> (Linnaeus, 1758)	49.61	8.4	-	-	-	-	-	-
<i>Bucephala clangula</i> (Linnaeus, 1758)	-	-	0.22	0.3	-	-	-	-
<i>Mergellus albellus</i> Linnaeus, 1758	-	-	1.25	1.7	-	-	-	-
<i>Pandion haliaetus</i> (Linnaeus, 1758)	-	-	0.01	0.02	-	-	-	-
<i>Milvus migrans</i> (Boddaert, 1783)	0.38	0.06	0.38	0.5	0.08	0.02	-	-
<i>Buteo buteo</i> (Linnaeus, 1758)	2.53	0.4	0.21	0.3	-	-	-	-
<i>Haliaeetus albicilla</i> (Linnaeus, 1758)	0.17	0.03	0.29	0.4	0.01	0.003	0.01	0.007
<i>Falco subbuteo</i> Linnaeus, 1758	-	-	-	-	11	3.4	-	-
<i>Lyrurus tetrix</i> (Linnaeus, 1758)					-	-	2.32	1
<i>Coturnix coturnix</i> (Linnaeus, 1758)	-	-	-	-	0.90	0.33	-	-
<i>Grus grus</i> (Linnaeus, 1758)	-	-	0.02	0.03	0.006	0.001		

Species	Floodplain of the River Irtysh		Water reservoirs (lakes, oxbow)		Flood meadows		Meadows- coppices	
	N	D	N	D	N	D	N	D
<i>Crex crex</i> (Linnaeus, 1758)	-	-	-	-	1.48	0.5	-	-
<i>Charadrius hiaticula</i> Linnaeus, 1758	6.95	1.2	-	-	-	-	-	-
<i>Vanellus vanellus</i> (Linnaeus, 1758)	0.23	0.03	1.24	1.7	-	-	-	-
<i>Tringa ochropus</i> Linnaeus, 1758	0.03	0.005	-	-	-	-	-	-
<i>Tringa glareola</i> Linnaeus, 1758	-	-	0.63	0.8	-	-	-	-
<i>Tringa nebularia</i> (Gunnerus, 1767)	1.74	0.3	0.33	0.4	-	-	-	-
<i>Tringa totanus</i> (Linnaeus, 1758)	-	-	0.34	0.5	-	-	-	-
<i>Tringa stagnatilis</i> (Bechstein, 1803)	-	-	0.30	0.4	-	-	-	-
<i>Actitis hypoleucos</i> (Linnaeus, 1758)			2.1	2.9	-	-	-	-
<i>Phalaropus lobatus</i> (Linnaeus, 1758)	1.04	0.2	3.96	5.5	-	-	-	-
<i>Philomachus pugnax</i> (Linnaeus, 1758)	-	-	0.63	0.9	-	-	-	-
<i>Calidris minuta</i> (Leisler, 1812)	26.55	4.5	2.14	2.9	-	-	-	-
<i>Limosa limosa</i> (Linnaeus, 1758)	28.85	4.9	-	-	0.06	0.02	-	-
<i>Larus ridibundus</i> Linnaeus, 1766	-	-	1.98	2.7	-	-	-	-
<i>Larus heuglini</i> Bree, 1876	0.67	0.1	-	-	0.41	0.1	-	-
<i>Larus barabensis</i> H. Johansen, 1960	0.04	0.007	0.46	0.6	0.02	0.006	-	-
<i>Larus canus</i> Linnaeus, 1758	-	-	0.53	0.7	-	-	-	-
<i>Sterna hirundo</i> Linnaeus, 1758	3.36	0.6	11.91	16.4	0.09	0.03	-	-

Species	Floodplain of the River Irtysh		Water reservoirs (lakes, oxbow)		Flood meadows		Meadows- coppices	
	N	D	N	D	N	D	N	D
<i>Columba palumbus</i> Linnaeus, 1758	-	-	2.08	2.9	-	-	-	-
<i>Cuculus canorus</i> Linnaeus, 1758	-	-	-	-	0.51	0.2	-	-
<i>Dryocopus martius</i> (Linnaeus, 1758)	1.74	0.3	-	-	-	-	-	-
<i>Dendrocopos major</i> (Linnaeus, 1758)	3.2	0.5	-	-	7.43	2.3	-	-
<i>Dendrocopos leucotos</i> (Bechstein, 1803)	-	-	-	-	1.57	0,5	-	-
<i>Dendrocopos minor</i> (Linnaeus, 1758)	-	-	-	-	-	-	7.24	3
<i>Riparia riparia</i> (Linnaeus, 1758)	112.77	19.1	-	-	0.46	0.1	-	-
<i>Hirundo rustica</i> Linnaeus, 1758	11.55	1.9	-	-	0.29	0.09	-	-
<i>Anthus trivialis</i> (Linnaeus, 1758)	5.80	0.9	-	-	5.67	1.7	56.31	24
<i>Anthus hodgsoni</i> Richmond, 1907	-	-	-	-	16.21	5	-	-
<i>Anthus pratensis</i> (Linnaeus, 1758)	-	-	-	-	1.96	0.6	-	-
<i>Motacilla flava</i> Linnaeus, 1758	5.80	0.9	6.06	8.3	45.87	14.2	54.99	22.9
<i>Motacilla alba</i> Linnaeus, 1758	147.41	25	17.52	24.1	6.96	2.1	3.14	1.3
<i>Oriolus oriolus</i> (Linnaeus, 1758)	-	-	-	-	-	-	0.8	0.3
<i>Sturnus vulgaris</i> Linnaeus, 1758	-	-	-	-	5.56	1.7	-	-
<i>Pica pica</i> (Linnaeus, 1758)	20.25	3.4	0.03	0.04	1.04	0.3	2.63	1.1
<i>Nucifraga caryocatactes</i> (Linnaeus, 1758)	1.07	0.2	-	-	5.28	1.6	-	-
<i>Corvus cornix</i> Linnaeus, 1758	20.87	4	1.56	2.1	1.17	0.4	-	-

[illegible]

Species	Floodplain of the River Irtysh		Water reservoirs (lakes, oxbow)		Flood meadows		Meadows-coppices	
	N	D	N	D	N	D	N	D
<i>Luscinia svecica</i> (Linnaeus, 1758)	2.90	0.4	-	-	-	-	-	-
<i>Turdus pilaris</i> Linnaeus, 1758	-	-	-	-	5.95	1.8	5.46	2.3
<i>Turdus iliacus</i> Linnaeus, 1766	-	-	-	-	1.74	0.5	4.10	1.7
<i>Aegithalos caudatus</i> (Linnaeus, 1758)	12.15	2.1	-	-	19.02	5.9	-	-
<i>Parus montanus</i> Baldenstein, 1827	-	-	-	-	4.82	1.5	9.28	3.9
<i>Parus caeruleus</i> Linnaeus, 1758	0.70	0.1	-	-	-	-	-	-
<i>Parus cyanus</i> Pallas, 1770	-	-	-	-	0.09	0.03	-	-
<i>Parus major</i> Linnaeus, 1758	-	-	-	-	10.04	3.1	6.94	2.9
<i>Sitta europaea</i> Linnaeus, 1758	-	-	-	-	3.42	1.1	2.32	1
<i>Passer montanus</i> (Linnaeus, 1758)	31.48	5.3	-	-	28.08	9	17.18	7.2
<i>Fringilla coelebs</i> Linnaeus, 1758	25.83	4.4	-	-	-	-	4.64	1.9
<i>Fringilla montifringilla</i> Linnaeus, 1758	-	-	-	-	0.51	0.1	-	-
<i>Carduelis carduelis</i> (Linnaeus, 1758)	11.85	2	-	-	10.81	3.3	-	-
<i>Carpodacus erythrinus</i> (Pallas, 1770)	-	-	-	-	0.57	0.2	-	-
<i>Pyrrhula pyrrhula</i> (Linnaeus, 1758)	13.97	2.4	-	-	0.91	0.3	-	-
<i>Emberiza citrinella</i> Linnaeus, 1758	-	-	-	-	1.57	0.5	-	-
<i>Schoeniclus schoeniclus</i> (Linnaeus, 1758)	-	-	-	-	10.67	3.3	-	-
Total	590.03	100	7.2	100	322.41	100	219.93	100

Notes. N – abundance, ind/km², D – Percentage; «-» the species was not registered; the bold font indicates the dominant species.