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SEASONAL CHANGES IN BIRDS OF THE "PRIARALYE" NATIONAL NATURE PARK

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ABSTRACT

This article examines the role of the Priaralye National Nature Park in preserving the avifauna of the Aral Sea region. Based on field studies conducted between 2022 and 2025, the species composition, seasonal dynamics, and density of birds were analyzed. A total of 254 species were recorded in the park and Lake Davutkul, 28 of which were indicator and characteristic species. The average density was 368.7 individuals per 10 hectares, with representatives of the Corvidae family dominating. The results confirm the park's high conservation value for nesting, migration, and wintering birds.

KEYWORDS: *Avifauna, Biological Diversity, Seasonal Dynamics, Population Density, Indicator Species, Tugai Ecosystems, Bird Monitoring, Protected Natural Areas.*

The role of protected natural areas in the conservation of biological diversity, including bird diversity, is invaluable. The Aral Sea National Nature Park was established in accordance with the Decree of the President of the Republic of Uzbekistan dated August 23, 2019, No. PP-4424, "On additional measures to improve the efficiency of forest management in the Republic."

Field research was conducted in the Aral Sea National Nature Park from 2022 to 2025, throughout all seasons. Standard methods were used to study the bird fauna [5]. To determine the density of the bird community, a census was conducted on an area of 1 hectare. The percentage of a given species in the bird community was calculated using the formula X = a * 100/v [6].

Bird observations and recordings were conducted using 15x50 Baigish binoculars and a Coolpix p1000 camera. Observation periods at reference points lasted 10-30 minutes. According to available literature [1, 2, 3, 4], as well as our field observations [7, 8], 254 bird species belonging to 50 families and 20 orders have been recorded in the Aral Sea National Nature Park and the adjacent Lake Davutkul.

We studied the seasonal dynamics of seasonally occurring indicator and characteristic bird species in the "Priaralye" National Nature Park during 2022–2025 (Table 1). The research included a comprehensive analysis of the spatial distribution of birds, population density, and seasonal activity.

As a result of winter ornithological surveys conducted in the tugai (riparian forest) areas of the "Priaralye" National Nature Park, an indicator and characteristic bird assemblage was identified, comprising 21 species belonging to 6 orders and 13 families. This diversity is explained by the mosaic structure of tugai biogeocenoses, the dense and multilayered vegetation cover, and the presence of various microhabitats.

The results of monitoring studies showed that the numerical parameters of the bird community are relatively high. In particular, the average bird population density during the winter period is 339.7 individuals per 10 hectares, which confirms the significant ecological importance of the area for birds during the wintering period.

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Table 1
Annual abundance of indicator and characteristic bird species in the Priaralye National Nature Park (per 10 ha)

№	Bird Species Name	Months of the year												Annual Average	%
		1	2	3	4	5	6	7	8	9	10	11	12		
1	*Accipiter nisus*	1,4	1,5	-	-	-	-	-	-	1,5	1,4	1,4	1,4	0,7	0,2
2	*Accipiter badius*	-	-	-	2,2	2,4	2,4	2,5	3,6	2,2	-	-	-	1,3	0,3
3	*Falco tinnunculus*	2,3	2,4	2,5	2,4	3,1	3,2	4,4	5,2	4,8	4,1	3,4	2,4	3,4	0,9
4	*Phasianus colchicus*	11,7	10,6	10,2	9,7	9,5	9,4	13,2	13,4	17,5	16,4	15,3	12,5	12,5	3,4
5	*Asio otus*	0,8	0,8	0,9	0,7	1,2	1,7	1,9	1,8	1,9	1,8	1,5	0,9	1,3	0,4
6	*Athene noctua*	2,1	2	2,1	2,6	1,9	2,4	2,2	2,1	2,2	2,1	2,2	2,3	2,2	0,6
7	*Merops persicus*	-	-	-	12,6	13,5	9,4	10,2	10,3	18,2	17,4	-	-	7,6	2,1
8	*Upupa epops*	-	-	4,4	6,2	3,2	3,4	3,6	5,4	5,3	2,1	-	-	2,8	0,8
9	*Dendrocopos leucopterus*	2,1	2,2	2,2	2,3	1,8	2,2	3,4	3,8	3,6	2,6	1,9	1,5	2,5	0,7
10	*Galerida cristata*	4,6	4,5	5,2	6,2	5,4	5,8	7,4	8,2	8,1	8,8	7,8	6,4	6,5	1,8
11	*Motacilla flava*	-	-	10,4	12,5	11,2	11,8	12,6	14,6	2,8	-	-	-	6,3	1,7
12	*Motacilla alba*	-	-	11,3	13,1	12,4	12,6	13,8	16,4	4,2	-	-	-	7,0	1,9
13	*Sturnus vulgaris*	41,2	36,5	-	-	-	-	-	-	28,2	39,5	52,1	46,3	20,3	5,5
14	*Pica pica*	4,2	4,3	6,8	6,2	6,6	12,8	13,1	13,5	12,6	8,4	7,2	5,6	8,4	2,3
15	*Corvus monedula*	10,8	10,4	10,2	9,9	10,3	19,2	20,1	18,2	24,3	19,6	15,3	11,2	15,0	4,1
16	*Corvus frugilegus*	111,8	118,67	68,8	77,6	27,7	70,2	85,2	83,7	132,6	113,7	139,6	122,7	96,0	26,0
17	*Corvus corone*	8,2	7,4	7,2	7,1	8,5	14,5	17,3	15,4	21,4	16,6	13,5	8,7	12,2	3,3
18	*Corvus cornix*	14,44	13,8	4,54	0,6	-	-	-	-	-	48,9	18,4	14,7	9,6	2,6
19	*Bombycilla garrulus*	10,4	9,6	4,2	-	-	-	-	-	-	24,5	39,4	16,1	8,7	2,4
20	*Turdus pilaris*	34,2	28,5	-	-	-	-	-	-	27,6	38,2	40,1	37,2	17,2	4,7
21	*Cercotrichas galactotes*	-	-	-	17,4	12,3	14,5	12,6	15,3	2,1	-	-	-	6,2	1,7
22	*Remiz pendulinus*	-	-	-	27,9	28,4	43,4	38,2	36,5	-	-	-	-	14,5	3,9
23	*Parus bokharensis*	9,7	8,8	13,4	12,7	12,4	26,4	25,7	23,2	23,4	22,5	221	10,8	34,2	9,3
24	*Passer montanus*	26,4	26,8	47,7	48,2	56,4	43,8	42,6	40,4	49,4	47,8	46,2	25,8	41,8	11,3
25	*Fringilla coelebs*	10,1	9,2	26,4	6,6	-	-	-	-	-	24,4	26,2	16,8	10,0	2,7
26	*Fringilla montifringilla*	9,5	8,4	25,8	6,4	-	-	-	-	-	23,2	25,4	15,4	9,5	2,6
27	*Spinus spinus*	8,8	7,7	27,2	6,4	-	-	-	-	-	21,2	27,8	13,8	9,4	2,6
28	*Coccothraustes coccothraustes*	2,4	2,3	2,2	1,8	-	-	-	-	-	4,2	4,4	3,2	1,7	0,5
	Total	**327,14**	**316,37**	**293,64**	**299,3**	**228,2**	**309,1**	**330**	**331**	**393,9**	**509,4**	**710,1**	**375,7**	**368,7**	**100,0**

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As a result of the analysis of the bird community by families during the winter period in the tugai territory of the "Priaralye" National Nature Park, numerically dominant groups were identified. In particular, representatives of the crow family (Corvidae) accounted for 45.8% of the total community composition and occupied a dominant position.

The dominant group in the community was also formed by the starling family (Sturnidae), accounting for 12.2%, and the finches family (Fringillidae), accounting for 10.6%. Subdominant status was characteristic of thrushes (Turdidae) at 9.8%, sparrows (Passeridae) at 7.8%, waxwings (Bombycillidae) at 3.5%, and a number of other families. Families such as owls (Strigidae) at 0.9%, falcons (Falconidae) at 0.7%, woodpeckers (Picidae) at 0.5%, and hawks (Accipitridae) at 0.4% formed a secondary, i.e., low-abundance group.

In spring, 45 ornithological surveys were conducted in the "Priaralye" National Nature Park. According to the monitoring results, 25 species of indicator and characteristic birds belonging to 8 orders and 16 families were recorded within the study area. Based on the analysis of the calculated data, it was established that the average population density of these species is 272.4 individuals per 10 ha.

An analysis of spring bird assemblages by family revealed dominant groups. In particular, members of the Corvidae family dominated, accounting for 30.8% of the total assemblage. The Passeridae sparrow (18.6%) and Fringillidae finch (12.6%) families also formed leading groups within the assemblage. Subdominant groups included Motacillidae wagtails (8.7%), Remizidae remisi (6.9%), Paridae tits (4.7%), and several other families. The Picidae thrush (0.8%), Accipitridae hawk (0.6%), and Bombycillidae waxwing (0.5%) families constituted secondary, or small, groups.

Based on the analysis of bird species conducted in the spring season, the rook Corvus frugilegus (21.3%) and the tree sparrow Passer montanus (18.6%) were identified as the main dominant species of the community. The subdominant category includes the common penduline tit Remiz pendulinus (6.9%), the Bukhara tit Parus bokharensis (4.7%), the white wagtail Motacilla alba (4.5%) and some other species. The Turkestan scaly-winged twig Accipiter badius (0.6%), the waxwing Bombycilla garrulus, the common grosbeak Coccothraustes coccothraustes (0.5% each), and the long-eared owl Asio otus (0.3%) are noted as secondary, rare species.

During the summer season, a total of 40 ornithological surveys were conducted in the "Priaralye" National Nature Park. The monitoring results showed that 19 species of indicator and characteristic birds belonging to 8 orders and 14 families were recorded in the study area. According to the analysis of survey data, the average population density of these species was 323.4 individuals per 10 ha.

An analysis of bird communities in the summer season by families revealed numerically dominant groups. In particular, representatives of the family Corvidae occupied a dominant position, accounting for 39.5% of the total abundance. The families Passeridae (13.1%) and Remizidae (12.1%) also formed dominant groups within the community. Subdominant groups included the families Motacillidae (8.4%), Paridae (7.8%), and Muscicapidae (4.4%). The family Accipitridae (0.9%) belonged to the secondary, i.e., low-abundance families.

Based on the species-level analysis for the summer season, the dominant species in the community were the rook Corvus frugilegus (24.6%), the Eurasian tree sparrow Passer montanus (13.1%), and the Eurasian penduline tit Remiz pendulinus (12.2%). Subdominant species included the Bukhara tit Parus bokharensis (7.8%), the jackdaw Corvus monedula (5.9%), the carrion crow Corvus corone (4.9%), and several others. The Shikra Accipiter badius (0.9%), little owl Athene noctua (0.7%), and long-eared owl Asio otus (0.6%) were recorded as secondary, i.e., rarely occurring species.

During the autumn season, a total of 48 ornithological surveys were conducted in the "Priaralye" National Nature Park. The survey results showed that 27 species of indicator and characteristic birds, belonging to 8 orders and 17 families, were recorded in the study area. According to the analysis of the monitoring data, the average population density of these species was 534.9 individuals per 10 ha.

In the autumn season, an analysis of the bird community by families revealed numerically dominant groups. In particular, representatives of the family Corvidae occupied a dominant position, accounting for 36.9% of the community composition. The families Anatidae (ducks; 30.8%) and Paridae (tits; 16.6%) also formed dominant groups within the community. The families Fringillidae (finches; 9.8%), Passeridae (sparrows; 8.9%), and Sturnidae (starlings; 7.5%) were identified as subdominant groups. The families Upupidae (hoopoes), Picidae (woodpeckers; 0.5%), Accipitridae (hawks; 0.4%), Motacillidae (wagtails; 0.4%), and Muscicapidae (flycatchers; 0.1%) were classified as secondary, i.e., low-abundance families.

Based on the species-level analysis in the tugai area during the autumn season, the dominant species in the community were the rook (Corvus frugilegus, 24%) and the Bukhara tit (Parus bokharensis, 16.6%). The Eurasian tree sparrow (Passer montanus, 8.9%), the common starling (Sturnus vulgaris, 7.5%), and the fieldfare (Turdus pilaris, 6.6%) were classified as subdominant species. The white wagtail (Motacilla alba, 0.3%), yellow wagtail (Motacilla flava, 0.2%), Shikra (Accipiter badius), and tugai nightingale (Cercotrichas galactotes, 0.1% each) were recorded as secondary, i.e., rare species.

The results of ornithological observations conducted over four years across all seasons showed that 28 indicator and characteristic bird species, belonging to 8 orders and 18 families, were recorded within the national park. Their average population density per 10 hectares was 368.7 individuals. Seasonal analysis yielded the following densities: winter – 339.7, spring – 272.4, summer – 323.4, and autumn – 534.9 individuals per 10 ha.

These results indicate that the bird community within the national park was relatively stable, with seasonal fluctuations being relatively minor.Analysis by month showed that the highest density was recorded in November (710.1

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individuals), while the lowest was in May (228.2 individuals) (Fig. 1).

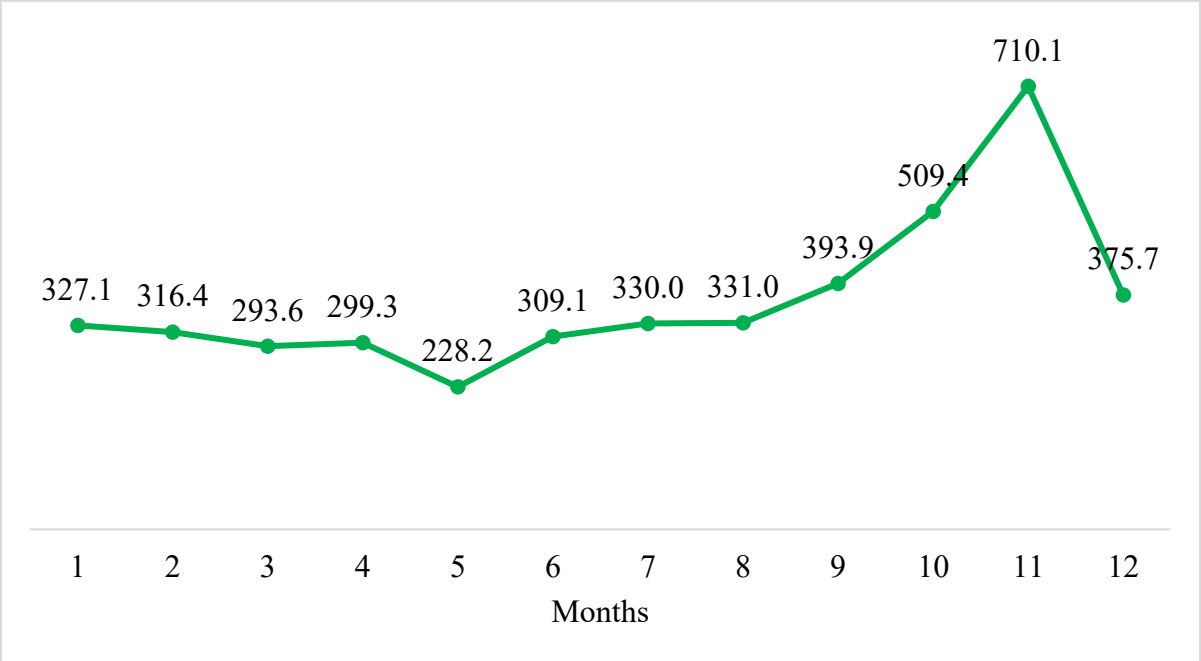

Figure 1. Average bird density by month in the "Priaralye" National Nature Park and its surroundings (per 10 ha/individuals)

This can be explained by the fact that in May most bird species are less frequently observed, which is associated with the breeding season, whereas in November migratory wintering species arrive. To protect birds within the national park, it is necessary to regularly supply water to the tugai areas and to limit disturbances that affect birds during the breeding period.

REFERENCES

1. *Abdikarimova, M.K., Ametov, Ya.I., Ayimbetova, Sh.J., Bekniyazova, D.B. To the characteristics of spring–summer bird assemblages of the "Priaralye" National Nature Park (2024). Proceedings of the XVI International Ornithological Conference of Northern Eurasia, April 21–24, 2025. – P. 278.*
2. *Abdikarimova, M.K., Jumanov, M.A., Nurimov, B.J., Bekniyazova, D.B. Spring and summer ornithological observations in the "Orolboyi" National Nature Park. Current Issues and Prospects of Wildlife Research: International Scientific-Practical Conference, November 7–8, 2024. – P. 127–128.*
3. *Abdreimov, T., Ajimuratov, Kh. Birds of the Dautkul Reservoir and its surroundings // Coll. "Reaction of Limnic Systems to Anthropogenic Impact". – Tashkent, 1987. – P. 111–122.*
4. *Ametov, M.B., Matekova, G., Ametov, Ya. Winter ornithofauna of the cultural landscape of Karakalpakstan // Ecological Education and Sustainable Development: International Scientific-Practical Conference. – Nukus, 2004. – P. 122–124.*
5. *Ametov, Ya.I. Structure and functioning of the breeding bird fauna of the agrarian landscape of Karakalpakstan: Author's abstract of PhD dissertation in Biological Sciences. – Tashkent, 2010. – 22 p.*
6. *Ametov, Ya.I., et al. Hunting birds of Lake Dautkul // VII International Scientific-Practical Conference: Problems of Rational Use and Conservation of Natural Resources of Southern Aral Sea Region. – Nukus, 2018. – P. 128.*
7. *Kuzyakin, A.N. Method of forest bird surveys // Geography and Ecology of Terrestrial Vertebrates of the Non-Chernozem Zone. – Vladimir, 1981. – P. 38–48.*
8. *Novikov, G.A. Field studies on the ecology of terrestrial vertebrates. – Moscow, 1953. – 501 p.*