

**BIRD BIODIVERSITY AND THEIR ECOLOGICAL
SIGNIFICANCE IN KHOREZM REGION****A.Kh.Atajanov****Independent Researcher, Khorezm National Nature Park, Urgench****I.I.Abdullaev****Doctor of Biological Sciences, Professor, Khorezm Mamun Academy,
Khiva****<https://doi.org/10.5281/zenodo.17348220>****ARTICLE INFO**Received: 10th October 2025Accepted: 12th October 2025Online: 14th October 2025**KEYWORDS***birds, biodiversity, ecosystem,
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Khorezm region.***ABSTRACT***This thesis presents data on the bird species distributed across the Khorezm region, their biodiversity, and their ecological significance within local ecosystems. During the research process, bird fauna was studied in various biotopes, and their ecological functions were analyzed. The results indicate that birds in the Khorezm region play a crucial role in maintaining biological balance in the natural environment.***Introduction**

Birds are among the most active biological indicators in nature, playing an essential role in maintaining ecosystem stability [1]. The Khorezm region, due to its geographical position, water resources, and climatic conditions, provides a favorable environment for numerous bird species. The Amu Darya River, reservoirs, agricultural fields, and residential areas in this region serve as habitats for a variety of bird species.

Bird biodiversity not only enriches the natural landscape but also serves as an important criterion for assessing the impact of human activities on ecosystems. Birds help determine water quality, food chain stability, and overall biological sustainability [2].

Research Area and Methods

The research was conducted during 2024–2025 in various biotopes of the Khorezm region, including:

- Banks of the Amu Darya River,
- Turtkul Reservoir,
- Agricultural lands around Urgench,
- Green areas in Khonka and Kushkupir districts.

Bird species were recorded using visual observation methods with binoculars and cameras. Identification of species was based on *Birds of Central Asia* (A. Kovshar, 2015) and the *Catalogue of Ornithofauna of Uzbekistan* [3].

Results and Analysis

A total of 92 bird species were recorded during the study. They were classified according to biotopes as follows:

No	Bird Category	Example Species	Number of Species	Share (%)
1	Waterfowl (Anatidae, Ardeidae)	<i>Anas platyrhynchos</i> , <i>Ardea cinerea</i>	26	28.3
2	Field and open-area birds (Laniidae, Motacillidae)	<i>Motacilla alba</i> , <i>Alauda arvensis</i>	22	23.9
3	Woodland and garden birds (Turdidae, Passeridae)	<i>Passer domesticus</i> , <i>Turdus merula</i>	18	19.5
4	Raptors (Falconidae, Accipitridae)	<i>Falco tinnunculus</i> , <i>Buteo rufinus</i>	9	9.8
5	Migratory and seasonal birds	<i>Ciconia ciconia</i> , <i>Sturnus vulgaris</i>	17	18.5
Total:			92	100

Birds play a vital role in maintaining ecological balance, controlling pest populations, and preserving the stability of the food chain [4]. For instance, species such as *Tyto alba* and *Lanius collurio* feed on rodents and insects, thereby benefiting agricultural systems.

Aquatic species like *Anas crecca* and *Podiceps cristatus* contribute to the circulation of biological materials in water, helping to purify aquatic ecosystems. These birds serve as natural indicators of water quality and ecosystem health [5].

Along the Amu Darya River and Turtkul Reservoir, numerous waterfowl are frequently observed. The presence of *Ciconia ciconia*, *Pelecanus crispus*, and *Egretta alba* species helps assess the ecological status of water reservoirs.

Moreover, birds hold significant potential in ecotourism and environmental education. Birdwatching activities in Khorezm's water areas have been developing in recent years, contributing to public awareness and the cultivation of ecological culture among young people [6].

Major threats to bird populations include the reduction of water resources, excessive use of agrochemicals, habitat loss, and increased anthropogenic activity. Particularly in aquatic ecosystems, the number of certain species is decreasing each year [7]. Therefore, regular monitoring and strengthening of bird conservation measures in the region remain urgent tasks.

Conclusion

The Khorezm region possesses high bird biodiversity, and these species play a significant role in ecosystem stability. The study results demonstrate that bird fauna serves as a key factor in maintaining the biological balance of the region. Protecting bird populations, conserving their habitats, and establishing biological monitoring systems are essential directions for ensuring ecological sustainability.

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