

Avifaunal biodiversity in the Tianmu Lake National Wetland Park of Jiangsu Province, China

Zhang Xuanyi, Huang Shuping, Wang Minhua, & Liu Xinyi

Keywords: bird species, survey, biodiversity conservation, threats, Tianmu Lake, wetland

Abstract

Tianmu Lake is an important habitat for birds in the largely hilly area of Liyang city, Jiangsu Province, in southeast China. To better conserve its diverse and species-rich avian fauna, the Tianmu Lake National Wetland Park was established in 2018. Since taxonomic information about the Park's bird fauna was limited, we conducted field surveys of the site and recorded 199 bird species belonging to 17 orders in 52 families in the Park's wetlands. Anatidae are the most species-rich family present, with 23 species represented. According to IUCN criteria, 6 of the species – the Chinese egret (*Egretta eulophotes*), swan goose (*Anser cygnoides*), white-naped crane (*Grus vipio*), band-bellied crake (*Porzana paykullii*), Saunders's gull (*Larus saundersi*), and yellow-breasted bunting (*Emberiza aureola*) – are classified as endangered, and 29 species are listed in CITES Appendix II. Current knowledge suggests that human activities and the invasion of non-native species have severely threatened the biodiversity of the Park's birds. To protect avifaunal diversity, we recommend some specific measures that should be adopted and enforced. We hope that this study will provide useful information for bird conservation in the hilly areas of southeast China.

Profile

Protected area

Tianmu Lake National

Wetland Park

Country

China

Introduction

Avifaunal diversity is an important component of biodiversity and a critical environmental indicator because of birds' ecological functions, including pollination, the control of problematic insects, and the dispersal of seeds and propagules (Sekercioglu 2006). Avifaunal biodiversity has experienced a severe decline due to habitat fragmentation, human activities, and the impacts of non-native species (Stanton et al. 2018). Unfortunately, the current availability of accurate and publicly accessible information regarding bird diversity in numerous regions is limited, potentially leading to a significant underestimation of losses occurring in various areas (Politi et al. 2021).

China is an avian biodiversity hotspot, with a high number of endemic and endangered species (Jiang et al. 2016). The hilly areas in the southeast of China are listed among the top 200 protection priority areas in the world (Olson & Dinerstein 1998). In addition to the rich array of non-migratory species, the area is also an important habitat for birds migrating between Siberia and Australia (Piersma et al. 2021; Kuang et al. 2022). While a number of studies have investigated the diversity and distribution of birds in some regions of the mostly hilly terrain of southeast China (Zhang et al. 2016), many important habitats that support high bird biodiversity, such as Tianmu Lake, have received little attention.

Tianmu Lake National Wetland Park (TLNWP) is situated within the city boundaries of Liyang in Jiangsu Province, China. In 1992, a dam was constructed on

the Shahe River at Tianmu Mountain, forming a large reservoir that was subsequently named Tianmu Lake. The TLNWP is located in the Yili Mountain area, in the central subtropical area of Jiangsu province. This region has a rich array of wetland resources and is also an important habitat for many rare and endangered bird species (Mo 2017).

The purposes of this study were: (1) to compile an updated inventory of the bird fauna in TLNWP; (2) to review the main threats to bird biodiversity in the TLNWP; (3) to review recommendations for the conservation of bird biodiversity at the site.

Methods

Study area

TLNWP is located in Tianmu Lake Town, Liyang city, Jiangsu Province, China (31° 16' 40.03"–31° 12' 11.67" N, 119° 23' 1.55"–119° 26' 4.48" E). The total area of the town and protected zone is 11.54 km².

TLNWP has a northern subtropical monsoon climate, with abundant rainfall. The average temperature is 16.6 °C, ranging between minus 4.6 °C and 38.7 °C. The highest and lowest average monthly temperatures are 30.2 °C in July and 4.5 °C in January. The average annual rainfall is 1149.7 mm, and the average rainfall during the flood season (June–September) is 574.2 mm. The wetland types of TLNWP include river, lake, marsh and ponds. The total wetland area of the TLNWP is 7.06 km² (Table 1), comprising 61.20 % of the TLNWP's total area.

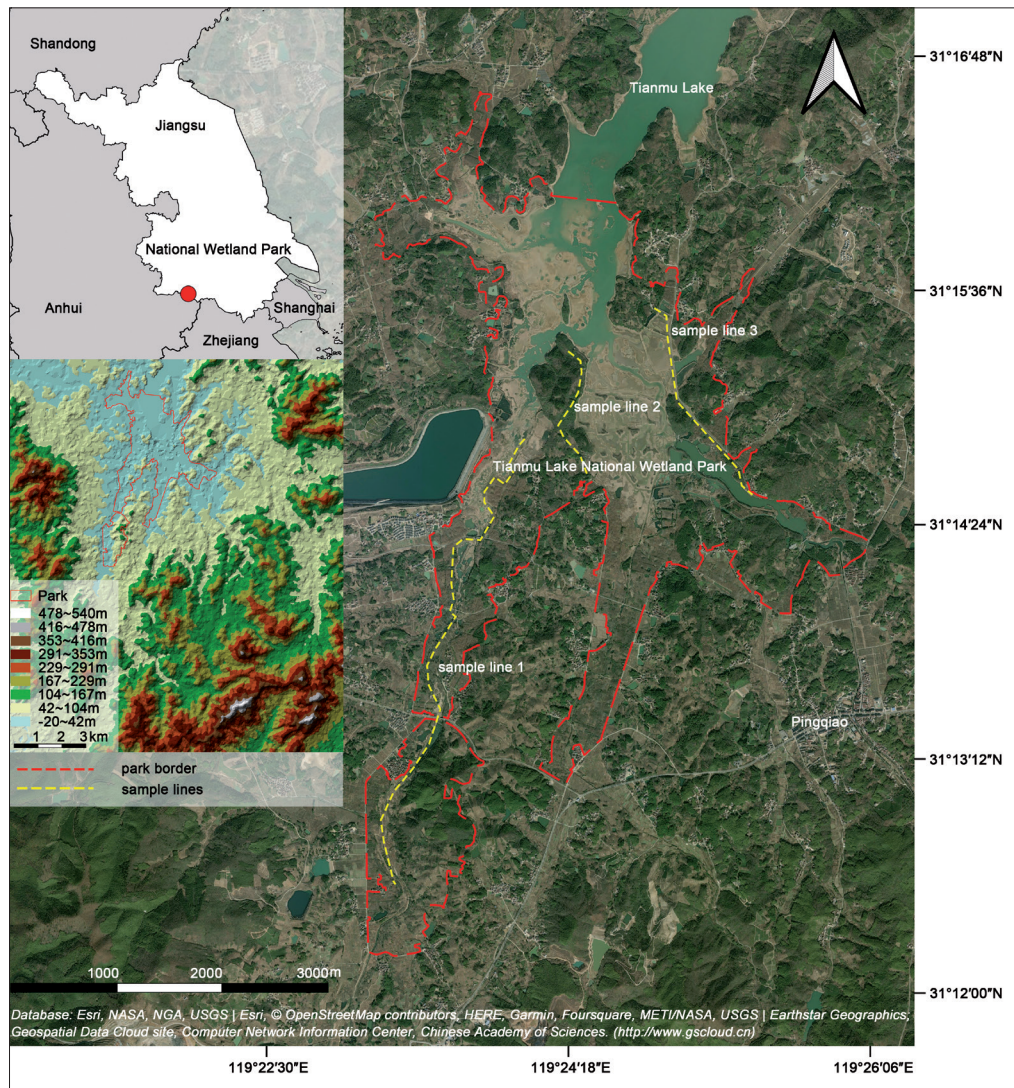


Figure 1— The geographical location and spatial extent of Tianmu Lake National Wetland Park.

Table 1 – Wetland types and their respective areas in the Tianmu Lake National Wetland Park.

Wetland type	Area (km ²)	Percent (%)
River wetland	1.15	16.32
Lake wetland	2.71	38.41
Marsh wetland	2.80	39.60
Pond wetland	0.40	5.67

Field surveys

Three transect lines were established to sample the habitats in the TLNWP (Figure 1). Sample line 1 included the habitats of broadleaf forests and residential areas along the Lake; line 2 included farmland, residential areas, and habitats adjacent to the lake's shore; line 3 encompassed the remaining farmland and residential areas. In 2021, field surveys were carried out on five occasions (March 9–10, April 7–9, June 2–3, October 28–29, December 6–7), from 05:30 to 09:30 and from 16:30 to 19:30 on each day. An updated inventory of the bird species was compiled according to a field survey methodology (see Appendix), and their

conservation status (IUCN Red List Categories and Criteria) was recorded according to Jiang et al. (2016).

Results

A total of 199 bird species belonging to 17 orders in 52 families were recorded in the TLNWP (see Appendix). Anatidae is the most species-rich family (23 species), followed by Ardeidae (16 species), Accipitridae (12 species), Charadriidae and Emberizidae (11 each), and Turdidae (10 species). Other families were represented by fewer than 10 species.

Discussion

This study is the first detailed inventory of bird species in the TLNWP. Tianmu Lake is situated in the northwest of the Yili Mountains, the highest peak of which reaches 611 m a.s.l. This elevation greatly exceeds the average elevation of less than 50 metres in the Yangtze River Delta region where the TLNWP is situated. The TLNWP provides habitats for many en-



Figure 2 – Some of the avian species observed during the survey. © Zhang Xuanyi

dangered and endemic avian species within this unique elevational zone. While the TLNWP accounts for only 0.00007% of China's total land area, it is home to 199 bird species (about 14.57% of the total species reported in China). Of these, 57 are endangered, including 6 according to IUCN criteria; 29 figure in the National Protected Animals List, and 27 are designated as Key Protected Animals in Jiangsu Province. The TLNWP is clearly very important for bird biodiversity conservation in China.

Human disturbance is an important threat to bird populations and their distribution (Wang et al. 2018). TLNWP is a famous tourist attraction, attracting more than 850,000 visitors annually from the nearby cities in the Yangtze River delta. Noise and discarded rubbish have potential impacts on species' ability to recognize each other, mate selection, territorial defence, popu-

lation density, and the community structure of some bird species (Ji & Zhang 2011).

Non-native species and their impacts pose significant threats to the native ecosystem and to the diversity of organisms within it (Pimentel et al. 2005; Vilá et al. 2010). A broad range of non-native fishes and aquatic plant species have been introduced to China (Xiong et al. 2015; Wang et al. 2016); many non-native aquatic plants have also been introduced, establishing large areas of monoclonal feral populations in the Yangtze River basin (Wang et al. 2020; Xiong et al. 2021, 2022). This has resulted in a great decline among native plants and macroinvertebrates (Stiers et al. 2011; Brundu 2015). In turn, this has resulted in dramatic changes in community composition, and reduced the available forage plants and suitable habitats for many species of waterfowl.

Conservation

The visitor control standards followed in other wetland parks in China, such as Xixi Wetland Park, Jinghu Wetland Park, recommend the establishment of a *comfortable space* arrangement of visitors, using a maximum of 10 m²/person as the reference standard (Zhang et al. 2021). The length of walking tours in TLNWP is approximately 12.6 km, and the average tourist's visiting time is 8 hours if they use the TLNWP in accordance with the spacing of 10 m²/person standard.

The daily visitor turnover coefficient of the TLNWP is 1 (= the length of opening times of tourist attractions each day, divided by the time required for tourists to visit the attractions). A turnover coefficient of >1 means that each tourist spends less than one day in the area of interest, and more tourists visit this attraction each day. A turnover coefficient of <1 means that tourists spend more than one day in the area of interest, and fewer tourists visit this attraction each day. The number of visitors should not exceed 1,260/day using the *comfortable space* formula (126,000/10×1=1,260 persons). Thus, only 1,260 tourists are allowed to visit TLNWP each day.

We have implemented several scientific educational programmes on bird and habitat conservation for local residents and tourists. A wide range of visual aids, including pictures, videos and books about endangered species, were provided to local residents as educational material on biodiversity conservation.

Conclusion

TLNWP is a representative wetland of small lakes or reservoirs in the hilly areas of southeast China. These wetlands (elevation 100–800 m) support a high level of bird-species richness, but unfortunately the populations of many bird species have greatly decreased due to human disturbance and economic development (Wang et al. 2020). Proactive measures have recently been undertaken to promote biodiversity protection in the TLNWP, including the fencing-off of sensitive areas, producing informational brochures and programmes, ecological monitoring, and research into the life histories of endangered species.

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Authors

Zhang Xuanyi¹

has been committed to the protection of wetlands and the construction of wetland parks for many years, accumulating a wealth of experience in this domain. E-mail: kzhangxuanyi@163.com

Huang Shuping²

is a lecturer at Fujian University of Technology. She has a PhD in Landscape Architecture and Urban Forestry. E-mail: huangshuping@fjut.edu.cn

Wang Minhua¹

is an Associate Professor at Fujian Agriculture and Forestry University. E-mail: wmh699@163.com

Liu Xinyi³ – corresponding author

has a Master's in Forestry. E-mail: Felicity_1@126.com

¹ College of Landscape Architecture and Art, Fujian Agriculture and Forestry University, Fuzhou 350002, China

² College of Architecture and Planning, Fujian University of Technology, Fuzhou 350118, China

³ College of Forestry, Hainan University, Haikou 570228, China

Appendix

Appendix table 1 – Bird species in the Tianmu Lake National Wetland Park

SN	Order	Family	English name	Scientific name	Status		
1	Podicipediformes	Podicipedidae	Little Grebe	<i>Tachybaptus ruficollis</i>	Δ,LC,R,1		
2			Great Crested Grebe	<i>Podiceps cristatus</i>	Δ,LC,P,2		
3	Pelecaniformes	Phalacrocoracidae	Great Cormorant	<i>Phalacrocorax carbo</i>	LC,S,1		
4	Ciconiiformes	Ardeidae	Grey Heron	<i>Ardea cinerea</i>	LC,R,1		
5			Great Egret	<i>Casmerodius albus</i>	LC,P,1		
6			Intermediate Egret	<i>Mesophoyx intermedia</i>	LC,S,1		
7			Little Egret	<i>Egretta garzetta</i>	LC,S,1		
8			Cattle Egret	<i>Bubulcus ibis</i>	LC,S,1		
9			Chinese Pond-heron	<i>Ardeola bacchus</i>	LC,S,1		
10			Striated Heron	<i>Butorides striata</i>	LC,S,1		
11			Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	LC,S,1		
12			Purple Heron	<i>Ardea purpurea</i>	LC,P,1		
13			Chinese Egret	<i>Egretta eulophotes</i>	II,YU,S,2		
14			Yellow Bittern	<i>Ixobrychus sinensis</i>	LC,S,1		
15			Schrenck's Bittern	<i>Ixobrychus eurhythmus</i>	LC,S,2		
16			Cinnamon Bittern	<i>Ixobrychus cinnamomeus</i>	LC,S,1		
17			Black Bittern	<i>Dupetor flavicollis</i>	LC,S,1		
18			Great Bittern	<i>Botaurus stellaris</i>	LC,W,1		
19			Japanese Night-heron	<i>Gorsachius goisagi</i>	DD,P,2		
20			Anseriformes	Anatidae	Swan Goose	<i>Anser cygnoides</i>	Δ,YU,W,2
21					Bean goose	<i>Anser fabalis</i>	LC,W,2
22					Common Shelduck	<i>Tadorna tadorna</i>	LC,W,2
23	Ruddy Shelduck	<i>Tadorna ferruginea</i>			LC,W,2		
24	Mandarin Duck	<i>Aix galericulata</i>			II,NT,W,2		

SN	Order	Family	English name	Scientific name	Status		
25	Anseriformes	Anatidae	Gadwall	<i>Anas strepera</i>	LC,W,2		
26			Falcated Duck	<i>Anas falcata</i>	NT,W,2		
27			Eurasian Wigeon	<i>Anas penelope</i>	LC,W,2		
28			Mallard	<i>Anas platyrhynchos</i>	LC,W,2		
29			Eastern Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC,W,1		
30			Northern Shoveler	<i>Anas clypeata</i>	LC,W,2		
31			Northern Pintail	<i>Anas acuta</i>	LC,W,1		
32			Garganey	<i>Anas querquedula</i>	LC,W,2		
33			Baikal Teal	<i>Anas formosa</i>	NT,W,2		
34			Green-winged Teal	<i>Anas crecca</i>	LC,W,2		
35			Baer's Pochard	<i>Aythya baeri</i>	Δ,CR,W,2		
36			Common Pochard	<i>Aythya ferina</i>	Δ,LC,W,2		
37			Tufted Duck	<i>Aythya fuligula</i>	LC,W,2		
38			Greater Scaup	<i>Aythya marila</i>	LC,W,2		
39			Common Goldeneye	<i>Bucephala clangula</i>	LC,W,1		
40			Red-breasted Merganser	<i>Mergus serrator</i>	LC,P,1		
41			Smew	<i>Mergellus albellus</i>	LC,P,2		
42			Common Merganser	<i>Mergus merganser</i>	LC,W,2		
43			Falconiformes	Pandionidae	Osprey	<i>Pandion haliaetus</i>	II,NT,P,1
44				Accipitridae	Oriental Honey-buzzard	<i>Pernis ptilorhyncus</i>	II,NT,P,1
45					Black-winged Kite	<i>Elanus caeruleus</i>	II,NT,P,1
46					Black-eared Kite	<i>Milvus lineatus</i>	II,LC,R,1
47	Crested Goshawk	<i>Accipiter trivirgatus</i>			II,NT,S,3		
48	Chinese Goshawk	<i>Accipiter soloensis</i>			II,LC,S,3		
49	Japanese Sparrowhawk	<i>Accipiter gularis</i>			II,LC,P,1		
50	Eurasian Sparrowhawk	<i>Accipiter nisus</i>			II,LC,W,2		
51	Black Kite	<i>Milvus migrans</i>			II,LC,R,1		
52	Northern Goshawk	<i>Accipiter gentiles</i>			II,NT,W,1		
53	Besra	<i>Accipiter virgatus</i>			II,LC,S,3		
54	Hen Harrier	<i>Circus cyaneus</i>			II,NT,W,2		
55	Pied Harrier	<i>Circus melanoleucos</i>			II,NT,W,2		
56	Falconidae	Common Kestrel			<i>Falco tinnunculus</i>	II,LC,R,1	
57		Red-footed Falcon			<i>Falco vespertinus</i>	II,NT,W,2	
58		Eurasian Hobby		<i>Falco subbuteo</i>	II,LC,S,2		
59	Galliformes	Phasianidae		Common Pheasant	<i>Phasianus colchicus</i>	LC,R,2	
60				Chinese Francolin	<i>Francolinus pintadeanus</i>	NT,R,3	
61			Japanese Quail	<i>Coturnix japonica</i>	Δ,LC,W,2		
62			Chinese Bamboo Partridge	<i>Bambusicola thoracica</i>	Δ,LC,R,3		
63	Gruiformes	Gruidae	White-naped Crane	<i>Grus vipio</i>	II,EN,W,2		
64		Turnicidae	Yellow-legged Buttonquail	<i>Turnix tanki</i>	LC,R,3		
65		Rallidae	Eastern Water Rail	<i>Rallus aquaticus</i>	LC,P,2		
66			Baillon's Crake	<i>Porzana pusilla</i>	LC,W,1		
67			Band-bellied Crake	<i>Porzana paykullii</i>	VU,P,2		
68			Watercock	<i>Gallinula cinerea</i>	LC,S,3		
69			White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	LC,S,3		
70			Common Moorhen	<i>Gallinula chloropus</i>	LC,R,1		
71		Eurasian Coot	<i>Fulica atra</i>	LC,W,1			
72	Charadriiformes	Jacaniidae	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	NT,S,3		
73		Recurvirostridae	Black-winged Stilt	<i>Himantopus himantopus</i>	LC,W,1		
74		Charadriidae	Northern Lapwing	<i>Vanellus vanellus</i>	LC,W,2		
75			Grey-headed Lapwing	<i>Vanellus cinereus</i>	LC,P,2		
76			Little Ringed Plover	<i>Charadrius dubius</i>	LC,S,1		
77			Kentish Plover	<i>Charadrius alexandrinus</i>	LC,R,1		
78		Scolopacidae	Eurasian Curlew	<i>Numenius arquata</i>	NT,W,2		
79			Common Greenshank	<i>Tringa nebularia</i>	LC,W,2		
80			Green Sandpiper	<i>Tringa ochropus</i>	LC,W,2		
81			Common Sandpiper	<i>Actitis hypoleucos</i>	LC,W,2		
82			Pintail Snipe	<i>Capella stenura</i>	LC,W,2		
83			Common Snipe	<i>Capella gallinago</i>	LC,W,2		
84			Eurasian Woodcock	<i>Scolopax rusticola</i>	LC,W,2		
85		Lariformes	Laridae	Black-headed Gull	<i>Larus ridibundus</i>	LC,W,2	
86	Saunders's Gull			<i>Larus saundersi</i>	Δ,VU,W,2		
87	Mew Gull			<i>Larus canus</i>	LC,R,1		
88	Herring Gull			<i>Larus argentatus</i>	LC,W,2		
89	Ancient Murrelet			<i>Synthliboramphus antiquus</i>	NT,W,1		
90	Sternidae		Common Tern	<i>Sterna hirundo</i>	LC,P,2		
91			Whiskered Tern	<i>Chlidonias hybrida</i>	LC,S,1		

SN	Order	Family	English name	Scientific name	Status
92	Columbiformes	Columbidae	Oriental Turtle-dove	<i>Streptopelia orientalis</i>	LC,R,1
93			Spotted Dove	<i>Streptopelia chinensis</i>	LC,R,3
94			Indian Cuckoo	<i>Cuculus micropterus</i>	Δ,LC,S,1
95			Common Cuckoo	<i>Cuculus canorus</i>	Δ,LC,S,2
96			Asian Lesser Cuckoo	<i>Cuculus poliocephalus</i>	Δ,LC,S,2
97			Large Hawk-Cuckoo	<i>Cuculus sparverioides</i>	Δ,LC,S,3
98			Asian Koel	<i>Eudynamis scolopaceus</i>	Δ,LC,S,1
99	Strigiformes	Strigidae	Asian Barred Owllet	<i>Glaucidium cuculoides</i>	II,LC,R,3
100			Eastern Grass Owl	<i>Tyto capensis</i>	II,LC,S,1
101			Oriental Scops Owl	<i>Otus sunia</i>	II,LC,R,3
102			Collared Scops Owl	<i>Otus bakkamoena</i>	II,LC,R,3
103			Eurasian Eagle-owl	<i>Bubo bubo</i>	II,NT,R,2
104			Collared Owllet	<i>Glaucidium brod</i>	II,LC,R,3
105			Short-eared Owl	<i>Asio flammeus</i>	II,NT,W,1
106			Long-eared Owl	<i>Asio otus</i>	II,LC,W,1
107	Caprimulgiformes	Caprimulgus	Jungle Nightjar	<i>Caprimulgus indicus</i>	LC,S,3
108	Coraciformes	Alcedinidae	Common Kingfisher	<i>Alcedo atthis</i>	LC,R,1
109			White-throated Kingfisher	<i>Halcyon smyrnensis</i>	LC,R,3
110			Black-capped Kingfisher	<i>Halcyon pileata</i>	LC,β3
111	Coraciformes	Alcedinidae	Crested Kingfisher	<i>Megaceryle lugubris</i>	LC,R,1
112			Pied Kingfisher	<i>Ceryle rudis</i>	LC,S,1
113		Coraciidae	Oriental Dollarbird	<i>Eurystomus orientalis</i>	LC,S,1
114	Piciformes	Picidae	Great Spotted Woodpecker	<i>Picoides major</i>	Δ,LC,R,2
115			Grey-headed Woodpecker	<i>Picus canus</i>	Δ,LC,R,1
116	Upupiformes	Upupidae	Common Hoopoe	<i>Upupa epops</i>	Δ,LC,R,1
117	Passeriformes	Pittidae	Indian Pitta	<i>Pitta brachyura</i>	II,DD,S,3
118		Alaudidae	Eurasian Skylark	<i>Alauda arvensis</i>	LC,β2
119			Oriental Skylark	<i>Alauda gulgula</i>	LC,W,1
120		Hirundinidae	Barn Swallow	<i>Hirundo rustica</i>	LC,S,1
121			Red-rumped Swallow	<i>Hirundo daurica</i>	LC,S,1
122		Motacillidae	White Wagtail	<i>Motacilla alba</i>	LC,S,1
123			Forest Wagtail	<i>Dendronanthus indicus</i>	LC,S,2
124			Yellow Wagtail	<i>Motacilla tschutschensis</i>	LC,β2
125			Grey Wagtail	<i>Motacilla cinerea</i>	LC,β1
126			Richard's Pipit	<i>Anthus novaeseelandiae</i>	LC,S,3
127			Olive-backed Pipit	<i>Anthus hodgsoni</i>	LC,W,2
128		Regulidae	Collared Finchbill	<i>Spizixos semitorques</i>	LC,R,3
129			Light-vented Bulbul	<i>Pycnonotus sinensis</i>	LC,R,3
130		Bombycillidae	Bohemian Waxwing	<i>Bombycilla garrulous</i>	LC,W,2
131			Japanese Waxwing	<i>Bombycilla japonica</i>	LC,W,2
132		Laniidae	Brown Shrike	<i>Lanius cristatus</i>	LC,S,2
133			Tiger Shrike	<i>Lanius tigrinus</i>	LC,S,2
134			Chinese Grey Shrike	<i>Lanius sphenocercus</i>	LC,W,2
135			Long-tailed Shrike	<i>Lanius schach</i>	LC,R,3
136		Oriolidae	Black-naped Oriole	<i>Oriolus chinensis</i>	Δ,LC,S,3
137		Dicruridae	Black Drongo	<i>Dicrurus macrocercus</i>	LC,S,3
138			Ashy Drongo	<i>Dicrurus leucophaeus</i>	LC,S,3
139		Sturnidae	Crested Myna	<i>Acridotheres cristatellus</i>	LC,R,3
140			White-cheeked Starling	<i>Sturnus cineraceus</i>	LC,W,2
141			Red-billed Starling	<i>Sturnus sericeus</i>	LC,R,3
142		Corvidae	Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	Δ,LC,R,3
143			Azure-winged Magpie	<i>Cyanopica cyanus</i>	Δ,LC,R,2
144			Oriental Magpie	<i>Pica pica</i>	Δ,LC,R,2
145			Collared Crow	<i>Corvus torquatus</i>	NT,R,1
146			Rook	<i>Corvus frugilegus</i>	LC,R,2
147			Eurasian Jackdaw	<i>Corvus monedula</i>	LC,W,2
148		Cinclidae	Brown Dipper	<i>Cinclus pallasii</i>	LC,R,2
149		Troglodytidae	Wren	<i>Troglodytes troglodytes</i>	LC,W,2
150		Turdidae	Red-flanked Bush Robin	<i>Tarsiger cyanurus</i>	LC,W,2
151			Oriental Magpie-robin	<i>Copsychus saularis</i>	LC,R,3
152			Daurian Redstart	<i>Phoenicurus aureoreus</i>	LC,W,2
153			Plumbeous Water-redstart	<i>Rhyacornis fuliginosa</i>	LC,R,1
154			Scaly Thrush	<i>Zoothera dauma</i>	LC,β1
155			Eurasian Blackbird	<i>Turdus merula</i>	LC,R,1
156			Black-backed Forktail	<i>Enicurus leschenaults</i>	LC,β3
157			Grey-backed Thrush	<i>Turdus hortulorum</i>	LC,W,2
158			Pale Thrush	<i>Turdus pallidus</i>	LC,W,2
159			Dusky Thrush	<i>Turdus naumanni</i>	LC,W,2

SN	Order	Family	English name	Scientific name	Status
160	Passeriformes	Timaliidae	Masked Laughingthrush	<i>Garrulax perspicillatus</i>	LC,R,2
161			Chinese Hwamei	<i>Garrulax canorus</i>	Δ,NT,R,3
162			Red-billed Leiothrix	<i>Leiothrix lutea</i>	Δ,LC,R,3
163		Paradoxornithidae	Vinous-throated Parrotbill	<i>Paradoxornis webbianus</i>	LC,R,1
164			Reed Parrotbill	<i>Paradoxornis heudei</i>	Δ,NT,R,1
165		Sylviidae	Reed Warbler	<i>Acrocephalus orientalis</i>	LC,S,2
166			Yellow-browed Willow Warbler	<i>Phylloscopus inornatus</i>	LC,P,2
167			Asian Stubtail	<i>Cettia squameiceps</i>	LC,P,2
168			Japanese Bush-Warbler	<i>Cettia diphone</i>	LC,P,2
169			Brownish-flanked Bush-warbler	<i>Cettia fortipes</i>	LC,R,3
170			Great Reed-warbler	<i>Acrocephalus arundinaceus</i>	LC,S,2
171			Dusky Warbler	<i>Phylloscopus fuscatus</i>	LC,P,2
172			Yellow-rumped Willow Warbler	<i>Phylloscopus proregulus</i>	LC,W,2
173			Regulidae	Goldcrest	<i>Regulus regulus</i>
174		Muscicapidae	Dark-sided Flycatcher	<i>Muscicapa sibirica</i>	LC,P,1
175			Asian Paradise-Flycatcher	<i>Terpsiphone paradise</i>	Δ,LC,S,3
176		Remizidae	Chinese Penduline Tit	<i>Remiz consobrinus</i>	LC,W,2
177		Paridae	Great Tit	<i>Parus major</i>	Δ,LC,R,1
178	Long-tailed Tit		<i>Aegithalos caudatus</i>	Δ,LC,R,2	
179	Passeriformes	Paridae	Black-throated Tit	<i>Aegithalo concinnus</i>	Δ,LC,R,3
180		Zosteropidae	Japanese White-eye	<i>Zosterops japonica</i>	LC,S,2
181		Passeridae	Sparrow	<i>Passer montanus</i>	LC,R,1
182			Hawfinch	<i>Coccothraustes coccothraustes</i>	LC,W,2
183		Estrildidae	White-rumped Munia	<i>Lonchura striata</i>	LC,R,3
184			Scaly-breasted Munia	<i>Lonchura punctulata</i>	LC,R,3
185		Fringillidae	Chinese Grosbeak	<i>Eophona migratoria</i>	LC,S,2
186			Japanese Grosbeak	<i>Eophona personata</i>	NT,P,2
187			Grey-capped Greenfinch	<i>Carduelis sinica</i>	LC,R,2
188			Eurasian Siskin	<i>Carduelis spinus</i>	LC,W,2
189		Emberizidae	Meadow Bunting	<i>Emberiza cioides</i>	LC,R,2
190			Chestnut-eared Bunting	<i>Emberiza fucata</i>	LC,P,1
191			Yellow-browed Bunting	<i>Emberiza chrysophrys</i>	LC,W,2
192			Pallas's Bunting	<i>Emberiza pallasi</i>	LC,W,2
193			Common Reed Bunting	<i>Emberiza schoeniclus</i>	LC,W,2
194			Yellow-breasted Bunting	<i>Emberiza aureola</i>	EN,P,2
195			Yellow-throated Bunting	<i>Emberiza elegans</i>	LC,W,2
196			Rustic Bunting	<i>Emberiza rustica</i>	LC,W,2
197			Black-faced Bunting	<i>Emberiza spodocephala</i>	LC,W,2
198			Chestnut Bunting	<i>Emberiza rutila</i>	LC,P,2
199			Crested Bunting	<i>Melophus lathami</i>	LC,R,3

Notes on status:

Conservation Status: Δ—Key Protected Animals in Jiangsu Province, II—National protection level.

IUCN Red List Categories and Criteria: CR—Critically Endangered, EN—Endangered, VU—Vulnerable, NT—Near Threatened, LC—Least Concern, DD—Data Deficient.

Occurrence Status: R—Resident, P—Passing, S—Summer, W—Winter.

Faunal type: 1—Widespread Species, 2—Palearctic Species, 3—Oriental Species.