Avifaunal diversity, distribution and threats in Dibru-Saikhowa Biosphere Reserve North-East India Assam (India): A review

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ABSTRACT

502 species of birds have been recorded from the Dibru-Saikhowa biosphere reserve. Avifaunal diversity is very common in that biosphere reserve. But at least 5 critically endangered species were recorded that included Houbaropsis bengalensis, Gyps bengalensis, Gyps tenuirostris, Sarcogyps calvus and Ardea insignis. The list also includes 5 endangered species Branta ruficollis, Cairina scutulata, Tringa guttifer, Aythya baeri and Leptoptilos dubius. In addition 10 vulnerable and, 13 near threatened a few range extensions were also recorded. The purely exotic birds based on the native range distribution are Acridotheres cinereus, Lonchura molucca, Bradypterus seebohmi. While the endemic birds of India is Paradoxornis flavirostris. The biosphere reserve reserve area was primarily meant for the conservation of the endangered White winged wood duck (Cairina scutulata) in its natural habitat. Presence of two ‘forest villages’, habitat destruction through agriculture, logging, settlement, and poisoning of water bodies for fishing, and erosion by rivers were noticed as major threats to Dibru-Saikhowa biosphere reserve birds.

Keywords: Avifaunal diversity, International Union for Conservation of Nature Status, Population trends, zoogeographical region of Birds.

INTRODUCTION

Diversification of birds plays a very important role in the health of an ecosystem. Birds play an important role in ecosystem by being as a part of the food web. They are potential pollinators and bio-indicators [1, 2]. They occupy various types of habitats, from open field to forest, desert to High Mountain and even in ice zone where it is quite tough for a human or other animals to live. Dibru-Saikhowa biosphere reserve has the largest salix swamp forest in north-eastern India. Tropical Moist Deciduous, Tropical Semi-evergreen, Evergreen Forests and grassland forms the main habitat type. Wetlands cover sixty percent of the total area while forest and grassland covers 25 and 15 percent respectively [3]. Thus Dibru-Saikhowa biosphere reserve having ideal habitat condition for wetland Birds and use the area for feeding, roosting, nesting and rearing young [2, 4, 5]. Dibru-Saikhowa Biosphere Reserve falls in course of two major international fly-ways of migratory Birds- East Asian and the East Asian –Australian flyways that bring almost 200 birds species from both the hemispheres. Dibru-Saikhowa Biosphere reserve is recognized as part of an Important Bird Area (IBA) and Endemic Bird Area (EBA) of Assam. The richness and diversity in bird species is attributed to the fact that the northeast and Assam in particular, is a meeting place of two zoogeographic sub regions, the Indo Malayan (Oriental) and Paleartic [6]. The original vegetation of the Park was tropical rainforest, but a large part sank by a few meters during the earthquake in 1950, causing significant geomorphological changes.
Due to regular flooding, the rainforest gradually gave way to deciduous forest and swamps [7]. The relatively remote Amarpur area, on the northern side of the Brahmaputra river, not included in the Park but is a part of the wider Dibru-Saikhowa Biosphere Reserve, has significant areas of tall grass, which are largely absent in the other areas of the Park. The Amarpur peninsula within the Biosphere Reserve covers about 3,000 ha. It is generally low-lying and much of it is flooded during the monsoon season [8]. The high landmass erosion and Fragmentation of habitat of birds is problematic in Dibru-Saikhowa Biosphere reserve because it diminishes both habitat size and connectivity among individuals and birds populations. The total land mass erosion is very high in Dibru-Saikhowa Biosphere reserve only 274sq km out of 340 sq km reaming its indicating loss of 19.4% of land mass since 1997.

Figure1: Dibru-Saikhowa biosphere reserve North-East India Assam

MATERIALS AND METHODS

Methodology: Fieldwork was carried out in Dibru-Saikhowa Biosphere reserve in during October-2011 to March-2012. We surveyed birds using direct observations (with 10×40 binoculars and using Digital Canon EOS 600D 18MP Digital SLR, ). The time schedule selected for the study was from 0600 hr to 1100 hr in the morning and 1300 hr to 1600 hr in the afternoon. During the study, the presence of different species of birds was ascertained by direct sighting, their calls (in some species only), and by interviewing local forest staff, villagers (for some conspicuous species only). The entire study area was divided into six segments viz. - Residential Area, Grassland Area, Fragmented Jungles, Wetland area, Core Area and Overhead Flight. The characteristics of birds were noted down on ornithological data sheet. Recorded species were identified with the help of standard literature [6, 9, 10, 11, and 12]. Study area topography, temperature and rainfall, vegetation, data were compiled using the secondary literature, online resources like (www.kolkatabirds.com, Wikipedia, Other Net sources) and A Book on Incredible Dibru-Saikhowa national park by Dr.K.K.Dwivedi. Threat analyses of Dibru-Saikhowa birds were carried out by using International Union for Conservation of Nature (IUCN 3.1) and online red data book at (www.iucnredlist.org). Zoogeographical realm wise analyses were carried on the database of birds to assess the endemic and migratory elements and also thereby suggest the importance of this biogeographic region in terms of its avifaunal diversity.
Study area: Dibru - Saikhowa national park is located at about 12 km north of Tinsukia town of the grasslands of north-east India are well known both for their large mammals, such as Indian rhinoceros Rhinoceros unicornis and Asian elephant Elephas maximus, and for restricted-range birds. Dibru - Saikhowa covering an area of 765 km², it lies between 27°30’ N to 27°45’ N latitude and 95°10’ E to 95°45’ E longitude at an average altitude of 118 m (range 110-126 m). The park bounded is by the Brahmaputra and Lohit rivers in the north and Dibru River in the south. It is situated in Dibrugarh and Tinsukia district of Assam. The area lies in the Indo-Burma global biodiversity hotspot [13] and Assam plain endemic bird area [14] figure1.

RESULTS AND DISCUSSION

Taxonomical analysis of Dibru-Saikhowa biosphere reserve birds: There are in total 502 species of birds, belonging to 248 genus; 68 families and 20 orders. The dominant genus of birds are Phylloscopus contributing 12 species (2.39%), followed by Anas which contributing 9 number of species (1.79%), Anthus contributing 8 (1.59%), while there were 5 genera contributing 7 species each representing 1.39% each. Saxicola and Turdus contributed 6 species or 1.19% each; 11 genera had 5 species each contributing 0.99%, 13 genera had 4 species each contributing to 0.79%, 60 genera of birds had 3 species each contributing 0.59% each, 134 genera of birds had 2 species each which contributes to 0.39% each, while remaining majority of 415 genera had 1 species representation contributing to 0.19% each. The dominant family in terms of species number of birds is Sylviidae which contributing to 58 (11.55%) number of species, while Muscipicidae contributing 43 (8.56%) number of species, Accipitridae contributing 37 (7.37%) number of species, Anatidae contributing 31 (6.17%) number of species, Scopadiadae 17 (3.38%) number of species, Cuclidae contributing 16 (3.18%) number of species, meanwhile 3 families contributing 15 number (2.98%) number of species, family Picidae contributing 14 (2.78%) number of species, Cisticolidae contributing 9 (1.79%) number of species, The dominant order Passeiriiformes contributing 227 (45.30%), while order Falconiformes contributing 42 (8.36%) number of species, order Charadriiformes contributing 40 (7.96%) number of species, order Anseriformes contributing 33 (6.57%) number of species, order Ciconiiformes contributing 29 (5.77%) number of species, order Gruiformes contributing 20 (3.89%) number of species, order Piciformes contributing 19 (3.87%) number of species, order Coraciiformes contributing 18 (3.58%) number of species, order Cuculiformes contributing 15 (2.98%) number of species, order Strigiformes and Columbiformes contributing 14 (2.78%) number of species, order Galliformes contributed 7 (1.39%) number of species, order Astrapiformes contributing 6 (1.19%) number of species, order Pelecaniformes and Psittaciiformes contributing 4 (0.79%) number of species, order Podicipediformes and Caprimulgiformes contributing 3 (0.59%) number of species, order Sylviidae contributing 2 (0.39%), order Trogoniformes contributing 1 (0.19%) only figure 2.

The IUCN trends of Dibru-Saikhowa biosphere reserve birds: The IUCN Status of Dibru-Saikhowa birds species are Least concern contributing 444 (86.16%) number of birds species, 13 (2.58%) birds species come in Near threatened category, 21 (4.18%) birds species come in not assessed category, 10 (1.99%) birds species come in vulnerable category, 5 (0.99%) species are come in Endangered category and 5 (0.99%) birds species Critically Endangered in Dibru-Saikhowa biosphere reserve.

The Population trends of these species 37 (7.56%) are decreasing as per IUCN status. Meanwhile population trends of 459 (90.66%) species are unknown. Houbaropsis bengalensis, Gyps bengalensis, Gyps tenuirostris, Sarcogyps calvus, Ardea insignis, species are Critically Endangered and there population is decreasing. Branta ruficollis, Cairina scutulata, Tringa guttifer, Aythyra baeri, Leptoptilos dubius birds species are Endangered and there population are decreasing. Francolinus gularis, Anser erythropus, Grus antigone, Chrysomma altirostre, Emberiza aureola, Aquila clanga, Leptoptilos javanicus, Trudoleus longirostris, Rynchops albicolis, Paradoxornis flavirostris are Vulnerable species and there population are decreasing. Anas falcata, Buceros bicornis, Ichthyophaga ichthyaetus, Euphiepiorhynchus asiaticus, Mycteria leucocephala, Luscinia pectardens, Aythyra nyroca, Alcedo hercules, Limnodromus semipalmatus, Numenius arquata, Aegypius monachus, Circus macrovus, Anhinga melanogaster all these species are come in the Near threatened category and there population are also decreasing as per IUCN status. Thus we can say that all the species are the critically endangered, endangered, vulnerable, and near threatened birds spicces population trend are decreasing as per IUCN status. Anas acuta species come under least concern but there population are decreasing in number. Falco naumanni species come under least concern category but there populations are stable figure 3.
Figure 2. Taxonomical hierarchy of Dibru-saikhowa biosphere reserve Bird species

Figure 3: The IUCN Status of Dibru-Saikhowa biosphere reserve Birds
Native distribution range and zoogeographical analysis Dibru-Saikhowa biosphere reserve birds: There are 502 numbers of bird species of Dibru-Saikhowa biosphere reserver are endemic in Indomalyan ecoregion, 138 species also reported in Neotropical ecoregion, 124 birds species are also found in Afrotopical ecoregion and 103 birds species are reported in Australasian affinity. 72 birds species are reported in Palearctic ecoregion, 48 birds species are reported in Nearctic and 18 species are found in Oceania Ecoregion of the earth's land surface. Acridotheres cinereus, Lonchura maluca, Bradypterus seebohmi are exotic birds in Dibru-Saikhowa biosphere reserve. While the Paradoxornis flavostris bird are endemic to Indomalyan ecoregion.

Table 1: Checklist of avian fauna of Dibru-Saikhowa biosphere reserve

<table>
<thead>
<tr>
<th>Order</th>
<th>S.No</th>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Family</th>
<th>IUCN Status</th>
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<td>Cissa chinensis (Boedlaart, 1783)</td>
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</table>
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60. Rufous Tree pâe *Dendrocitta vagabunda* (Latham, 1790) Corvidae Least concern
61. Grey Tree pâe *Dendrocitta formosa* (Swinhoe, 1863) Corvidae Least concern
62. House crow *Corvus splendens* (Vieillot, 1817) Corvidae Least concern
63. Large-billed Crow *Corvus macrorhynchos* (Wagler, 1827) Corvidae Least concern
64. Ashy wood swallow *Artamus fuscus* (Vieillot, 1817) Corvidae Least concern
65. Black- hooded Oriole *Oriolus sonorhous* (Linnaeus, 1758) Corvidae Least concern
66. Macron Oriole *Oriolus truilli* (Vigors, 1832) Corvidae Least concern
67. Large Cuckoo shrike *Coracina melachistis* (Hodgson, 1836) Corvidae Least concern
68. Black-winged Cuckoo shrike *Coracina melachistis* (Hodgson, 1836) Corvidae Least concern
69. Rosy Minivet *Pericrocotus rosaceus* (Vieillot, 1818) Corvidae Least concern
70. Small Minivet *Pericrocotus rufusnervosus* (Linnaeus, 1766) Corvidae Least concern
71. Black Drogo *Dicrurus macrocercus* (Vieillot, 1817) Dicruridae Least concern
72. Ashy Drogo *Dicrurus leucophaeus* (Vieillot, 1817) Dicruridae Least concern
73. Crow-billed Drogo *Dicrurus aeneus* (Vieillot, 1836) Dicruridae Least concern
74. Bronzed Drogo *Dicrurus aeneus* (Vieillot, 1836) Dicruridae Least concern
75. Lesser racket-tailed Drogo *Dicrurus remifer* (Temminck, 1823) Dicruridae Least concern
76. Spangled Drogo *Dicrurus huttoni* (Linnaeus, 1766) Dicruridae Least concern
77. Greater racket-tailed Drogo *Dicrurus paradiseus* (Linnaeus, 1766) Dicruridae Least concern
78. Chestnut-eared Bunting *Emberiza fucata* (Vieillot, 1817) Emberizidae Least concern
79. Little Bunting *Emberiza pusilla* (Pallas, 1776) Emberizidae Least concern
80. Yellow-breasted Bunting *Emberiza aureola* (Pallas, 1776) Emberizidae Least concern
81. Black-faced Bunting *Emberiza spodocephala* (Pallas, 1776) Emberizidae Least concern
82. Long-tailed Niltava *Niltava sundara* (Hodgson, 1837) Niltavidae Least concern
83. Silver-breasted Broadbill *Serilophus lunatus* (Gould, 1834) Eurylaimidae Least concern
84. Common rose finch *Carpodacus erythrinus* (Vieillot, 1840) Fringillidae Least concern
85. Pale Martin *Riparia dilinct* (Linnaeus, 1758) Hirundinidae Least concern
86. Sand Martin *Riparia riparia* (Linnaeus, 1758) Hirundinidae Least concern
87. Plain Martin *Riparia paludicola* (Vieillot, 1817) Hirundinidae Least concern
88. Barn Swallow *Hirundo rustica* (Linnaeus, 1758) Hirundinidae Least concern
89. Red-rumped Swallow *Hirundo daurica* (Vieillot, 1817) Hirundinidae Least concern
90. Sooty Swallow *Hirundo striolata* (Temminck & Schlegel, 1847) Hirundinidae Least concern
91. Asian Fairy Bluebird *Irena puella* (Latham, 1790) Irenidae Least concern
92. Brown Shrike *Lanius cristatus* (Linnaeus, 1758) Laniidae Least concern
93. Long-tailed Shrike *Lanius schach* (Hodgson, 1836) Laniidae Least concern
94. Grey backed Shrike *Lanius tephronotus* (Vigors, 1831) Laniidae Least concern
95. Black-capped Shrike *Lanius pumilio* (Hodgson, 1837) Laniidae Least concern
96. Asian Paradise-flycatcher *Terpsiphone paradisi* (Linnaeus, 1758) Monarchidae Least concern
97. Common Lora *Lorius lorius* (Linnaeus, 1758) Motacillidae Least concern
98. Forest Wagtail *Dendronanthus indicus* (Gmelin, 1789) Motacillidae Least concern
99. Citrine Wagtail *Motacilla citreola* (Pallas, 1776) Motacillidae Least concern
100. Yellow Wagtail *Motacilla flava* (Pallas, 1776) Motacillidae Least concern
101. Grey Wagtail *Motacilla cinerea* (Temminck, 1817) Motacillidae Least concern
102. Richard’s Pipit *Anthus richardi* (Vieillot, 1818) Motacillidae Least concern
103. Rosy Pipit *Anthus roseatus* (Blyth, 1847) Motacillidae Least concern
104. Fuddy-field Pipit *Anthus rubicundus* (Vieillot, 1818) Motacillidae Least concern
105. Blue Rock Thrush *Monticola solitarius* (Linnaeus, 1758) Muscicapidae Least concern
106. Chestnut-bellied Rock Thrush *Monticola rufiventris* (Jardine & Selby, 1835) Muscicapidae Least concern
107. Blue Whistling Thrush *Myophonus caeruleus* (Scopoli, 1786) Muscicapidae Least concern
108. Orange-headed Thrush *Zoothera citrina* (Latham, 1790) Muscicapidae Least concern
109. Dark-sided Thrush *Zoothera marginata* (Blyth, 1847) Muscicapidae Least concern
110. Scaly Thrush *Zoothera dauma* (Latham, 1790) Muscicapidae Least concern
111. Tickell’s Thrush *Turdus tickelliae* (Tickell, 1833) Muscicapidae Least concern
112. Black-breaded Thrush *Turdus dissimilis* (Blyth, 1847) Muscicapidae Least concern
113. Chestnut Thrush *Turdus rubricollis* (Hodgson, 1846) Muscicapidae Least concern
114. Lesser Short wing *Brachypteryx leucorynchus* (Temminck, 1827) Muscicapidae Least concern
115. Little Pied Flycatcher *Ficedula westermanni* (Sharpe, 1858) Muscicapidae Least concern
116. Slaty-blue Flycatcher *Ficedula tricolor* (Hodgson, 1845) Muscicapidae Least concern
117. Blue-throat *Luscinia svecica* (Linnaeus, 1758) Muscicapidae Least concern
118. Fire-throat *Luscinia frontalis* (David, 1871) Muscicapidae Least concern
119. Black Redstart *Phoenicurus ochruros* (Gmelin, 1758) Muscicapidae Least concern
120. Siberian Stonechat *Saxicola maurus* (Pallas, 1773) Muscicapidae Least concern
121. common Stonechat *Saxicola Torquatus* (Linnaeus, 1766) Muscicapidae Least concern
122. Grey bush chat *Saxicola falcata* (Ghair, 1846) Muscicapidae Least concern
123. Large Niltava *Niltava sundara* (Hodgson, 1836) Niltavidae Least concern
124. Ferruginous Flycatcher *Muscicapa ferruginea* (Hodgson, 1845) Muscicapidae Least concern
125. Red-throated Flycatcher *Ficedula parva* (Bechstein, 1792) Muscicapidae Least concern
126. Snow-browed Flycatcher *Ficedula hyperythra* (Blyth, 1833) Muscicapidae Least concern
127. Sapphire Flycatcher *Ficedula sapphire* (Blyth, 1843) Muscicapidae Least concern
128. Verditer Flycatcher *Eumyias thalassinus* (Swainson, 1827) Muscicapidae Least concern
129. Large Niltava *Niltava grandis* (Blyth, 1842) Muscicapidae Least concern
130. Small Niltava *Niltava macgregoriae* (Burton, 1836) Muscicapidae Least concern
131. Rufous-bellied Niltava *Niltava sundara* (Hodgson, 1837) Muscicapidae Least concern
132. Pale-blue Flycatcher *Coenias unicolor* (Blyth, 1843) Muscicapidae Least concern
133. Grey-headed Canary Flycatcher *Cisticola crosbeyi* (Swainson, 1820) Muscicapidae Least concern
134. Siberian Rubythroat *Luscinia calliope* (Pallas, 1776) Muscicapidae Least concern
Coraciiformes

208. Common Tailorbird  Orthotomus sutorius (Pennant, 1769) Sylviae Least concern
209. Dusky Warbler  Phylloscopus fuscatus (Blyth, 1842) Sylviae Least concern
210. Smoky Warbler  Phylloscopus fuliginosus (Hodgson, 1845) Sylviae Least concern
211. Greenish Blue Warbler  Phylloscopus trochiloides (Sundevall, 1837) Sylviae Least concern
212. Blunt-winged Warbler  Acrocephalus conspicillatus (Swinhoe, 1870) Sylviae Least concern
213. Bly's Reed Warbler  Acrocephalus dumetorum (Blyth, 1849) Sylviae Least concern
214. Common Reed Warbler  Acrocephalus stagnatilis (Ehrenberg, 1833) Sylviae Least concern
215. Thick-billed Warbler  Acrocephalus palustris (Pallas, 1766) Sylviae Least concern
216. Oriental Reed Warbler  Acrocephalus orientalis (Temminck & Schlegel, 1847) Sylviae Least concern
217. Black-browed Reed Warbler  Acrocephalus bistrigiceps (Swinhoe, 1860) Sylviae Least concern
218. Lesser Whitethroat  Sylvia curruca (Linnaeus, 1758) Sylviae Least concern
219. Mountain Tailorbird  Orthotomus caucanus (Temminck, 1836) Sylviae Least concern
220. Tickell's Leaf Warbler  Phylloscopus affinis (Tickell, 1833) Sylviae Least concern
221. Yellow-eyed Babbler  Chrysomma sinense (Gmelin, 1789) Sylviae Least concern
222. Striated Railbabbler  Turdoides earlei (Blyth, 1844) Sylviae Least concern
223. Slender-billed Babbler  Turdoides longirostris (Moore, 1854) Sylviae Vulnerable
224. Nepal Fruited  Sciopyra nupendula (Hodgson, 1837) Sylviae Least concern
225. Dark-necked tailorbird  Orthotomus atrogularis (Temminck, 1836) Sylviae Least concern
226. Large-billed Leaf Warbler  Phylloscopus magnirostris (Blyth, 1843) Sylviae Least concern
227. Blyth's Leaf Warbler  Phylloscopus regulorum (Blyth, 1842) Sylviae Least concern
228. Yellow-browed Warbler  Phylloscopus cantor (Tickell, 1833) Sylviae Least concern
229. Yellow-browed Warbler  Phylloscopus inornatus (Blyth, 1842) Sylviae Least concern
230. Hume's Warbler  Phylloscopus humei (Brooke, 1878) Sylviae Least concern
231. Ashy-tailed Warbler  Phylloscopus maculipennis (Blyth, 1867) Sylviae Least concern
232. Eastern Crowned Warbler  Phylloscopus coronatus (Temminck & Schlegel, 1847) Sylviae Least concern
233. Common Chiffchaff  Phylloscopus collybita (Vieillot, 1817) Sylviae Least concern
234. Golden-banded Warbler  Seicercus burki (P. B. Burton, 1830) Sylviae Least concern
235. Grey-banded Warbler  Seicercus samhoehoensis (Gray & Grey, 1846) Sylviae Least concern
236. White-banded Warbler  Seicercus affinis (Hodgson, 1854) Sylviae Least concern
237. Grey-checked Warbler  Seicercus pedogensis (Blyth, 1847) Sylviae Least concern
238. Chestnut-Crowned Warbler  Seicercus castaneiceps (Hodgson, 1845) Sylviae Least concern
239. Rufous-fronted Warbler  Abroscopus abrogularis (Hodgson, 1845) Sylviae Least concern
240. Yellow-bellied Warbler  Abroscopus superciliosus (Blyth, 1859) Sylviae Least concern
241. Striated Grass bird  Megalurus palustris (Horsfield, 1821) Sylviae Least concern
242. Bristled Grass bird  Charadrius straitus (Jerdon, 1841) Sylviae Least concern
243. Rufous-rumped Grass bird  Geummeecola bengalensis (Jerdon, 1843) Sylviae Least concern
244. Lesser Neck laced Laughing thrush  Garrulus monileger (Jerdon, 1863) Sylviae Not assessed
245. Greater Neck laced Laughing thrush  Garrulus pectoralis (Gould, 1836) Sylviae Not assessed
246. Rufous -Necked laced Laughing thrush  Garrulus ruficollis (Jardine & Selby, 1838) Sylviae Least concern
247. Abbott's Babbler  Malacocincla abbotti (Blyth, 1845) Sylviae Least concern
248. Buff-breasted Babbler  Pellorneum tickelli (Blyth, 1859 ) Sylviae Least concern
249. Marsh Babbler  Pellorneum Palustre (Gould, 1872) Sylviae Least concern
250. Puff-throated Babbler  Pellorneum ruficeps (Swainson, 1830) Sylviae Least concern
251. Spot -Throated Babbler  Pellorneum albivenstre (Godwin-Austen, 1877) Sylviae Least concern
252. White-browed Scimitar Babbler  Pomatorhinus schisticeps (Hodgson, 1836) Sylviae Least concern
253. Rufous-fronted Babbler  Seicercus rufifrons (Hume, 1873) Sylviae Least concern
254. White-bellied Yuhina  Yuhina cantonensis (Blyth, 1844) Sylviae Least concern
255. Pygmy Wren-Babbler  Phsyopsylla pusilla (Hodgson, 1845) Sylviae Least concern
256. Grey-throated Babbler  Stachyris nigricans (Blyth, 1844) Sylviae Least concern
257. Striped Tit Babbler  Macronus galatus (Horsfield, 1822) Sylviae Least concern
258. Jordan's Babbler  Chrysococcyx altirostris (Jerdon, 1862) Sylviae Least concern
259. Jungle Babbler  Turdoides striatus (Dumont, 1827) Sylviae Least concern
260. White-browed babbler  Campophyllornis rupestris (Blyth, 1844) Sylviae Least concern
261. Red-tailed Minla  Minla ignitincta (Hodgson, 1833) Sylviae Least concern
262. Dark-throated Thrush  Turdus ruficollis (Pallas, 1776) Sylviae Least concern
263. Dusky Thrush  Turdus naumanni (Temminck, 1820) Sylviae Least concern
264. Grey-winged Black Babbler  Turdus brunnichii (Latham, 1790) Sylviae Least concern
265. Oriental White-eye  Zosterops palpebrous (Temminck, 1824) Sylviae Least concern

Scholars Research Library
279. Chestnut-headed Bee-eater  
Merops leschenaulti (Vieillot, 1817)  
Meropidae  
Least concern

280. Common Hoopoe  
Upupa epops (Linnaeus, 1758)  
Upupidae  
Least concern

281. Red-breasted Goose  
Branta ruficollis (Pallas, 1766)  
Anatidae  
Endangered

282. Bean Goose  
Anser fabalis (Latham, 1790)  
Anatidae  
Least concern

283. Lesser-whistling-fronted Goose  
Anser erythropus (Linnaeus, 1758)  
Anatidae  
Vulnerable

284. Graylag Goose  
Anser anser (Linnaeus, 1758)  
Anatidae  
Least concern

285. Rat-headed Goose  
Anser indicus (Latham, 1790)  
Anatidae  
Least concern

286. Indian Shelduck  
Tadorna ferruginea (Pallas, 1764)  
Anatidae  
Least concern

287. White-Wagtail Duck  
Cairina scutulata (S. Müller, 1842)  
Anatidae  
Endangered

288. Common shelduck  
Tadorna tadorna (Linnaeus, 1758)  
Anatidae  
Least concern

289. Comb Duck  
Ardeola melanophryns (Pannett, 1787)  
Ardeidae  
Least concern

290. Cotinga pygmy-geese  
Nettapar coromandeliana (Gmelin, 1789)  
Ardeidae  
Least concern

291. Mandarin duck  
Aix galericulata (Linnaeus, 1758)  
Anatidae  
Least concern

292. Gull-billed  
Anas strpera (Linnaeus, 1758)  
Anatidae  
Least concern

293. Falcated Duck  
Anas falcata (Georgi, 1766)  
Anatidae  
Least concern

294. Eurasian Wigeon  
Anas penelope (Linnaeus, 1758)  
Anatidae  
Least concern

295. Mallard  
Anas platyrhynchos (Linnaeus, 1758)  
Anatidae  
Least concern

296. Spot-billed Duck  
Anas poecilorhyncha (Forster, 1781)  
Anatidae  
Least concern

297. Northern shovelker  
Anas clypeata (Linnaeus, 1766)  
Anatidae  
Least concern

298. Northern pintail  
Anas acuta (Linnaeus, 1758)  
Anatidae  
Least concern

299. Common Teal  
Anas crecca (Linnaeus, 1758)  
Anatidae  
Least concern

300. Rialal Teal  
Anas formosa (Georgi, 1765)  
Anatidae  
Least concern

301. Garganey  
Anas querquedula (Linnaeus, 1758)  
Anatidae  
Least concern

302. long-tailed duck  
Clangula hyemalis (Linnaeus, 1758)  
Anatidae  
Least concern

303. common goldeneye  
Bucephala clangula (Linnaeus, 1758)  
Anatidae  
Least concern

304. Snow  
Mergellus albellus (Linnaeus, 1758)  
Anatidae  
Least concern

305. Red-crested Pochard  
Netta rufina (Linnaeus, 1758)  
Anatidae  
Least concern

306. Common Pochard  
Aythya ferina (Linnaeus, 1758)  
Anatidae  
Least concern

307. Ferruginous Pochard  
Aythya nyroca (Güldenstädt, 1770)  
Anatidae  
Near threatened

308. Baer’s Pochard  
Aythya baeri (Radder, 1966)  
Anatidae  
Least concern

309. Tufted Duck  
Aythya fuligula (Linnaeus, 1758)  
Anatidae  
Least concern

310. Greater Scaup  
Aythya marila (Linnaeus, 1766)  
Anatidae  
Least concern

311. Common Merganser  
Mergus merganser (Linnaeus, 1758)  
Anatidae  
Least concern

312. Tufted Whistling duck  
Dendrocygnia bilora (Vieillot, 1816)  
Dendrocygnidae  
Least concern

313. Lesser-whistling-ducks  
Dendrocygna javanica (Horsfield, 1821)  
Dendrocygnidae  
Least concern

Suififormes

314. Darter  
Anhinga melanogaster (Pannett, 1769)  
Anhingidae  
Near threatened

Apodiformes

315. Little Cormorant  
Phalacrocorax niger (Vieillot, 1817)  
Phalacrocoracidae  
Least concern

316. Indian Cormorant  
Phalacrocorax fuscicolis (Stephens, 1826)  
Phalacrocoracidae  
Least concern

317. Great Cormorant  
Phalacrocorax carbo (Linnaeus, 1758)  
Phalacrocoracidae  
Least concern

318. Himalayan Swiftlet  
Collocalia brevirostris (Horsfield, 1840)  
Apodidae  
Least concern

319. Asian palm Swift  
Cypsiurus baluensis (Gray, 1829)  
Apodidae  
Least concern

320. Fork-tailed Swift  
Apus pacificus (Latham, 1802)  
Apodidae  
Least concern

321. House Swift  
Apus affinis (Gray, 1830)  
Apodidae  
Least concern

322. Alpine swift  
Hirundapus caudacutus (Latham, 1802)  
Apodidae  
Least concern

323. White-throated Needle-tail  
Collocalia brevirostris (Horsfield, 1826)  
Apodidae  
Least concern

Pelecaniformes

324. Little Egret  
Egretta garzetta (Linnaeus, 1766)  
Ardeidae  
Least concern

325. Grey Heron  
Ardea cinerea (Linnaeus, 1758)  
Ardeidae  
Least concern

326. Purple Heron  
Ardea purpurea (Linnaeus, 1766)  
Ardeidae  
Least concern

327. White-bellied Heron  
Ardea insignis (Hume, 1878)  
Ardeidae  
Critically Endangered

328. Great Egret  
Casmerodius albus (Linnaeus, 1758)  
Ardeidae  
Least concern

329. Cattle Egret  
Bubulcus ibis (Linnaeus, 1758)  
Ardeidae  
Least concern

330. Indian Pond Heron  
Ardeola grayii (Sykes, 1832)  
Ardeidae  
Least concern

331. Malayan Night Heron  
Gorsachius melanolophus (Raffles, 1822)  
Ardeidae  
Least concern

332. Little Bittern  
Ixobrychus minutus (Linnaeus, 1758)  
Icteridae  
Least concern

333. Yellow Bittern  
Icterinae sinensis (Gmelin, 1789)  
Icteridae  
Least concern

334. Linnamón Bittern  
Icterinae cinnae (Gmelin, 1789)  
Icteridae  
Least concern

335. Black Bittern  
Ixobrychus nigricollis (Latham, 1790)  
Icteridae  
Least concern

336. Intermediate Egret  
Mesophoyx intermedia (Wagler, 1829)  
Ardeidae  
Least concern

337. Little Heron  
Butorides striata (Linnaeus, 1758)  
Ardeidae  
Least concern

338. Black-crowned Night Heron  
Nycticorax nycticorax (Linnaeus, 1758)  
Ardeidae  
Least concern

339. Dancing pied heron  
Ardeola intermedia (Shear & Nodder, 1807)  
Ardeidae  
Least concern

340. Great hornbill  
Byceros bicornis (Linnaeus, 1758)  
Byceroidea  
Near threatened

341. Great White Pelican  
Pelecanus onocrotalus (Linnaeus, 1758)  
Pelecanidae  
Least concern

342. Spot-billed Pelican  
Pelecanus philippensis (Gmelin, 1789)  
Pelecanidae  
Least concern

343. Glossy ibis  
Plegadis falcinellus (Linnaeus, 1766)  
Threskiornithidae  
Least concern

344. Eurasian Spoonbill  
Platalea leucorodia (Linnaeus, 1758)  
Threskiornithidae  
Least concern

Caprimulgiformes

345. large-tailed nightjar  
Caprimulgus macrurus (Horsfield, 1821)  
Caprimulgidae  
Least concern

346. Indian Nightjar  
Caprimulgus asiaticus (Latham, 1790)  
Caprimulgidae  
Least concern

347. Gey Nightjar  
Caprimulgus indicus (Latham, 1790)  
Caprimulgidae  
Least concern
Charadriiformes
348. Great Thick-knee Esacus recurrens (Guericke, 1829) Burhinidae Least concern
349. Eurasian Thick-knee Burhinus oedicnemus (Linnaeus, 1758) Burhinidae Least concern
350. Pacific Golden Plover Pluvialis fulva (Gmelin, 1789) Charadriidae Least concern
351. Kentish Plover Charadrius alexandrinus (Linnaeus, 1758) Charadriidae Least concern
352. Eurasian Golden Plover Pluvialis apricaria (Linnaeus, 1758) Charadriidae Least concern
353. Long-billed Plover Charadrius placidus (Gray & Gray, 1863) Charadriidae Least concern
354. Northen Lapwing Vanellus vanellus (Linnaeus, 1758) Charadriidae Least concern
355. Grey-headed Lapwing Vanellus cinereus (Blyth, 1842) Charadriidae Least concern
356. Little Ringed Plover Charadrius dubius (Scopoli, 1766) Charadriidae Least concern
357. Grey-headed Lapwing Vanellus cinereus (Blyth, 1842) Charadriidae Least concern
358. Red-winged Lapwing Vanellus indicus (Boddaert, 1783) Charadriidae Least concern
359. Small Pratincole Glareola pratincola (Temminck, 1820) Glareolidae Least concern
360. Pheasant-tailed Jacana Hydrophasianus chirurgus (Scopoli, 1766) Jacanidae Least concern
361. Bronze-winged Jacana Metopidius indicus (Latham, 1790) Jacanidae Least concern
362. Pallall's Guilin Larus schistisagus (Pallas, 1773) Laridae Least concern
363. Brown-headed Guilin Larus brunnicephalus (Jerdon, 1840) Laridae Least concern
364. Black-headed Guilin Larus ridibundus (Linnaeus, 1766) Laridae Least concern
365. River Tern Sterna aurantia (Gray, 1831) Laridae Least concern
366. Whiskered Tern Chlidonias hybrida (Pallas, 1811) Laridae Least concern
367. Black-bellied tern Sterna antillarum (Gray, 1832) Laridae Least concern
368. Pied Avocet Recurvirostra avosetta (Linnaeus, 1758) Recurvirostridae Least concern
369. Black-winged Stilt Himantopus himantopus (Linnaeus, 1758) Recurvirostridae Least concern
370. Greater Painted-snipe Rostratula benghalensis (Linnaeus, 1758) Rostratulidae Least concern
371. Pintail Spine Gallinago stenura (Bonaparte, 1830) Scolopacidae Least concern
372. Common Greenshank Tringa nebularia (Linnaeus, 1758) Scolopacidae Least concern
373. Spotted Greenshank Tringa ochropus (Linnaeus, 1758) Scolopacidae Least concern
374. Green sandpiper Tringa ochropus (Linnaeus, 1758) Scolopacidae Least concern
375. Wood sandpiper Tringa glareola (Linnaeus, 1758) Scolopacidae Least concern
376. Common Sandpiper Actitis hypoleucos (Linnaeus, 1758) Scolopacidae Least concern
377. Marsh Sandpiper Tringa stagnatilis (Boddaert, 1783) Scolopacidae Least concern
378. Asian Dotterel Limnodromus semipalmatus (Blyth, 1848) Scolopacidae Least concern
379. Temminck's Stint Calidris temminckii (Lesser, 1812) Scolopacidae Least concern
380. Long-toed stint Calidris subminuta (Middendorf, 1835) Scolopacidae Least concern
381. Little Stint Calidris minuta (Lesser, 1812) Scolopacidae Least concern
382. Whimbrel Numenius phaeopus (Linnaeus, 1758) Scolopacidae Least concern
383. Eurasian Curlew Numenius arquata (Linnaeus, 1758) Scolopacidae Least concern
384. Bar-tailed Godwit Limosa lapponica (Linnaeus, 1758) Scolopacidae Least concern
385. Yellow-legged Buttonquail Turnix subulatus (Blyth, 1843) Turnicidae Least concern
386. Barred Buttonquail Turnix sylvatica (Gmelin, 1789) Turnicidae Least concern
387. Small Buttonquail Turnix varius (Lesson, 1821) Turnicidae Least concern
388. Asian Openbill Anastomus oscitans (Boddaert, 1783) Ciconiidae Least concern
389. Black Stork Ciconia nigra (Linnaeus, 1758) Ciconiidae Least concern
390. Wooly-necked Stork Ciconia episcopus (Linnaeus, 1758) Ciconiidae Least concern
391. Black-necked Stork Ciconia ciconia (Linnaeus, 1758) Ciconiidae Least concern
392. Wooly-necked Stork Ciconia novaeholllandiae (Vigors, 1829) Ciconiidae Least concern
393. Wooly-necked Stork Ciconia episcopus (Linnaeus, 1758) Ciconiidae Least concern
394. Black-necked Stork Ciconia ciconia (Linnaeus, 1758) Ciconiidae Least concern
395. Wooly-necked Stork Ciconia episcopus (Linnaeus, 1758) Ciconiidae Least concern
396. Wooly-necked Stork Ciconia episcopus (Linnaeus, 1758) Ciconiidae Least concern
397. Wooly-necked Stork Ciconia episcopus (Linnaeus, 1758) Ciconiidae Least concern
398. Black Stork Ciconia nigra (Linnaeus, 1758) Ciconiidae Least concern
423. Greater Coucal Centropus sinensis (Stephens, 1815) Cuculidae Least concern
424. Lesser Coucal Centropus bengalensis (Gmelin, 1758) Cuculidae Least concern
425. Chestnut-Winged Cuckoo Clamator coromandus (Linnaeus, 1766) Cuculidae Least concern
426. Bandled Bay Cuckoo Cucuquttu sommeri (Temminck, 1821) Cuculidae Least concern
427. Plaintive Cuckoo Cucuquttu merulina (Scopoli, 1768) Cuculidae Least concern
428. Grey-breasted Cuckoo Cucuquttu passerinus (Wahl., 1758) Cuculidae Least concern
429. Dronto Cuckoo Surniculidus laghriki (Horsfield, 1821) Cuculidae Least concern
430. Green-billed Malkoha Phaenicophaeus tristis (Lessom, 1830) Cuculidae Least concern
431. Pied Falconet Micriotilanus melanoleucus (Blyth, 1843) Falconidae Least concern
432. Lesser Kestrel Falco naumanni (Heinricher, 1813) Falconidae Least concern
433. Common Kestrel Falco tinnunculius (Linnaeus, 1758) Falconidae Least concern
434. Red-necked Falcon Falco chicquera (Daudin, 1800) Falconidae Least concern
435. Purple Falcon Falco amurensis (Ridde, 1863) Falconidae Least concern
436. Eurasian Hobby Falco subbuteo (Linnaeus, 1758) Falconidae Least concern
437. Oriental Hobby Falco severus (Horsfield, 1821) Falconidae Least concern
438. Peregrine Falcon Falco peregrinus (Tunstall, 1779) Falconidae Least concern
439. Sarus Crane Grus antigone (Linnaeus, 1766) Gruidae Vulnerable
440. Common crane Grus grus (Linnaeus, 1758) Gruidae Least concern
441. Masked fin foot Helopodion punctatum (G. R. Gray, 1849) Heliornithidae
442. Bengal Florican Houbaropsis bengalensis (Gmelin, 1789) Otidae Critically endangered
443. Slaty legged crane Bullaona cana (Linnaeus, 1758) Gruidae Least concern
444. Slaty breasted crane Gariophilus striatus (Linnaeus, 1766) Gruidae Least concern
445. Water Rail Rallus aquaticus (Linnaeus, 1758) Rallidae Least concern
446. White-breasted water hen Amaurornis phoenicurus (Pennant, 1771) Rallidae Least concern
447. Black-tailed Crane Porzana bicolor (Porzana bicolor Walden, 1872) Rallidae Least concern
448. Ruby-breasted Crane Porzana fusca (Linnaeus, 1766) Rallidae Least concern
449. Brown Crane Amnorris unicolor (Styken, 1832) Rallidae Least concern
450. Common Kookaburra Psittacula australis (Gmelin, 1788) Ramphastidae Least concern
451. Watercock Gallicrex cinerea (Linnaeus, 1758) Rallidae Least concern
452. Purple Swamp Hen Porphyrio poliocephalus (Linnaeus, 1758) Rallidae Least concern
453. Common Moorhen Gallinula chloropus (Linnaeus, 1758) Rallidae Least concern
454. Common Moorhen Gallinula chloropus (Linnaeus, 1758) Rallidae Least concern
455. Blue Francolin Francolinus francolinus (Linnaeus, 1766) Phasianidae Least concern
456. Swamp Francolin Francolinus gutturosus (Temminck, 1832) Phasianidae Least concern
457. Common Moorhen Gallinula chloropus (Linnaeus, 1758) Rallidae Least concern
458. Rain Quail Coturnix sonneratii (Linnaeus, 1766) Phasianidae Least concern
459. Red jungle fowl Gallus gallus (Linnaeus, 1758) Phasianidae Least concern
460. Kaji Parrot Psittacula krameri (Hodgson, 1837) Psittacidae Least concern
461. Eurasian Wryneck Jynx torquilla (Linnaeus, 1758) Picidae Least concern
462. Specked Piculet Picumnus miniatus (Burton, 1836) Picidae Least concern
463. White-breasted Piculet Sesiocichla francisca (Hodgson, 1836) Picidae Least concern
464. Hay woodpecker Dendrocopos major (Hodgson, 1837) Picidae Least concern
465. Grey -capped pygmy Woodpecker Dendrocopos capicollis (Blyth, 1845) Picidae Least concern
466. Rufous Woodpecker Celeus frantvarius (Vieillot, 1818) Picidae Least concern
467. Lesser Yellow Nape Picus chlorolophus (Vieillot, 1818) Picidae Least concern
468. Great Yellow Nape Picus flavinucha (Gould, 1834) Picidae Least concern
469. Streak-throated Woodpecker Picus maderaspatana (Gray & Gray, 1846) Picidae Least concern
470. Grey-headed Woodpecker Picus canus (Gmelin, 1758) Picidae Least concern
471. Great Flame Back Chrysocolaptes lucidus (Scopoli, 1768) Picidae Least concern
472. Himalayan Flame Back Dendrocopos pekinensis (Hodgson, 1836) Picidae Least concern
473. Pale -Headed woodpecker Lophophanes cristatus (Vieillot, 1818) Picidae Least concern
474. Black-casqued Woodpecker Dendrocopos maderaspatana (Vieillot, 1818) Picidae Least concern
475. Great Barbet Megalaima tigrina (Boddaert, 1783) Megalaimidae Least concern
476. Lineated Barbet Megalaima lineata (Vieillot, 1818) Megalaimidae Least concern
477. Blue-throated Barbet Megalaima artucula (Linnaeus, 1758) Megalaimidae Least concern
478. Coppernuth Barbet Megalaima haemacephala (Müller, 1776) Megalaimidae Least concern
479. Blue-eared Barbet Megalaima australis (Horsfield, 1821) Megalaimidae Least concern
480. Alexandrine Parakeet Psittacula eupatria (Linnaeus, 1766) Psittacidae Least concern
481. Rose-ringed Parakeet Psittacula krameri (Scopoli, 1768) Psittacidae Least concern
482. Blossom-headed Parakeet Psittacula roseati (Burmax, 1951) Psittacidae Least concern
483. Red-breasted Parakeet Psittacula alexandrina (Linnaeus, 1758) Psittacidae Least concern
484. Oriental Bay Owl Phodilus hypoleucus (Horsfield, 1821) Strigidae Least concern
485. Oriental Scops Owl Otus ardens (Hodgson, 1836) Strigidae Least concern
486. Collared Scops Owl Otus bakkamoena (Pennant, 1779) Strigidae Least concern
487. Eurasian Eagle Owl Bubo bubo (Linnaeus, 1758) Strigidae Least concern
488. Brown fish Owl Ketupa cyanoptera (Vieillot, 1818) Strigidae Least concern
489. Tawny fish Owl Ketupa flavipes (Hodgson, 1836) Strigidae Least concern
490. Asian Barred Owlet Glaucidium euraletos (Vigors, 1831) Strigidae Least concern
491. Jungle Owlet Glaucidium leucotis (Tickell, 1803) Strigidae Least concern
492. Collared Owlet Glaucidium industrum (Burton, 1836) Strigidae Least concern
493. Spotted Owlet Athene brama (Temminck, 1821) Strigidae Least concern

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CONCLUSION

The ecology of the DSBR biosphere Reserve is keeps chang in every year because of the flood and erosion. Present study also reveals that the wetland has been facing some danger so far the habitat and its overall biodiversity is concerned. The main conservation issue is diversion of a channel of the Lohit river through Ananta nullah, a small channel in early 1990s. This has resulted in widening of the latter channel into a wide river, which ultimately made the Biosphere reserve an island. Large areas have been eroded in the process. These recurring floods often change the river course itself, causing both soil erosion and siltation, and playing a significant role by way of modifying the habitat of DSBR Birds species. The next major issue is the presence of two large forest villages inside the Park. Most of the forests have been heavily exploited for timber, and very little dense forest remains. Therefore, some steps like Proper documentation of biodiversity of the Dibru-Saikhowa bird should be encouraged, massive awareness programmes should be launched among wetland users and other common peoples to educate them about the negative effects of wetland degradation and depletion of its biodiversity and Government should take initiative for the conservation of the IBA siteare urgently needed to minimize the risk of total deterioration of the riparian wetland bird of Dibru-Saikhowa biosphere reserve.

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