

**SEASONAL DIVERSITY, RELATIVE ABUNDANCE
AND STATUS OF AVIAN FAUNA IN
NAGARJUN ROYAL FOREST,
KATHMANDU, NEPAL**



**Submitted by
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ABSTRACT

Seasonal diversity, relative abundance and status of avian fauna were studied in Nagarjun Royal Forest (NRF), Kathmandu. NRF is supposed to be a paradise for several species of residential and migratory forest birds. The study area mainly consists of four types of forests - *Schima wallichii* Forest (SWF), Mixed Broadleaved Forest (MBLF), Pine Forest (PF) and Dry Oak Forest (DOF) and small patches of grassy meadows and some streams. The study was carried out from May 2005 to Feb 2006 covering all four seasons. Four fixed line transects covering all the major habitats of the study area were followed to census the birds. Two of them run through interior of the forests and two of them run through the forest edges. Shannon–Wiener function was used to calculate seasonal species diversity. Jacob's coefficient was used to calculate relative diversity. For relative abundance, encounter rates of every species were calculated. A total of 117 taxa of bird species, belonging to 12 orders and 37 families were recorded from the study area. Among them 76 (64.95%) species were resident, 18 (15.38%) were winter visitors, 19 (16.23%) were summer visitors and 4 (3.41%) were of unknown status. Diversity Index of bird showed highest value during spring season (3.7916) followed by winter (3.7267), autumn (3.4323) and rainy (3.295) seasons. Similarly Jacob's coefficient for relative abundance showed highest value in spring (0.870) followed by winter (0.848), rainy (0.834) and autumn (0.828) seasons. Among all species recorded, only 10 species were encountered commonly, 26 species were encountered frequently while 81 species were uncommon in its relative abundance. And, among 76 resident species 10, 21 and 45 species fell in the common, frequent and uncommon categories respectively. Among six different habitats, highest numbers of species were exclusive to SWF which covers the largest area of all other forests. The number and species richness of birds were significantly different in all seasons as well as in all the habitat transects. The result indicated that species richness of birds was high during spring and winter seasons than rainy and autumn seasons. Similarly, species richness of birds was higher in forest edges than in interior of the forest. The fact, that the area has good diversity of birds and 15 bird species of all recorded species were nationally threatened, points to the importance of conserving the forest, thereby ensuring the survival of these vulnerable species and developing it as potential area for avian fauna ecotourism has been one of the major foci of this study.

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ABBREVIATIONS

BCN	-	Bird Conservation Nepal
BLI	-	Birdlife International
BPP	-	Biodiversity Profile Project
CITES	-	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DNPWC	-	Department of National Parks and Wildlife Conservation
ER	-	Encounter Rates
GIS	-	Geographic Information System
HMG	-	His Majesty's Government
ICIMOD	-	International Centre for Integrated Mountain Development
IUCN	-	International Union for Conservation of Nature and Natural Resources
NRDB	-	National Red Data Book
NRF	-	Nagarjun Royal Forest
SPSS	-	Statistical Package for Social Science
TU	-	Tribhuvan University
WWF	-	World Wildlife Fund