

**STUDY OF THE DIVERSITY OF BIRDS WITH SEASONAL  
VARIATION AND HABITAT TYPES OF GODAWARI AND  
ITS ADJACENT REGIONS**

**A Dissertation**

**Submitted to Institute of Science and Technology,  
Tribhuvan University**

**For the Partial Fulfillment of Master's Degree in Science**

**By**

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**July, 2006**

## LETTER OF RECOMMENDATION

This dissertation work with the title of **Study of the Diversity of Birds with Seasonal Variation and Habitat Types of Godawari and its Adjacent Regions** submitted by Mr. Dinesh Basnet to the Institute of Science and Technology, Central Department of Zoology, Tribhuvan University, Kirtipur has been carried out under my supervision. This entire work is based on the results of his investigation and has not been submitted for any other degree to the best of my knowledge. Hence, I recommend this dissertation work to be accepted for the partial fulfillment of M. Sc. Degree in Zoology (Ecology), Tribhuvan University, Kirtipur, Kathmandu, Nepal.

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## **LETTER OF APPROVAL**

This dissertation work with the title of **Study of the Diversity of Birds with Seasonal Variation and Habitat Types of Godawari and its Adjacent Regions** submitted by Mr. Dinesh Basnet, student of this department, has been accepted for the partial fulfillment of M.Sc. Degree in Zoology (Ecology), Tribhuvan University, (Kathmandu), Nepal.

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## EVALUATION

We, the members of expert committee went through this dissertation “**Study of the Diversity of Birds with Seasonal Variation and Habitat Types of Godawari and its Adjacent Regions**” and accept Mr. Dinesh Basnet to be qualified for awarding M.Sc. Degree of Zoology (Ecology), Tribhuvan University, (Kathmandu), Nepal.

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## ACKNOWLEDGEMENT

I wish to express my cordial gratitude to my supervisor, Dr. Ramesh Shrestha, Central Department of Zoology, for his kind guidance and constant encouragement in carrying out this study and dissertation work.

My hearty thanks go to Prof. Dr. Tej Kumar Shrestha Head of Central Department of Zoology, for providing me necessary requirements in this research work.

I would like to thank Bird Conservation Nepal for supporting my bird study at Godawari via Whitely Award Funds received by Dr. Hem Sagar Baral.

I would like to extend my sincere gratitude to respected teacher Mr. Tej Bahadur Thapa, Central Department of Zoology for his co-operation in the present work. I would like to thank Mr. Madan Silwal, Godawari Range Post Office for his continuous help in field works.

I have no words to thank my dear friends, Mr. Bikram Shrestha, Mr. Rabindra Rimal, Mr. Roshan Paudel, Mr. N.B. Ranabhat, Mr. Y.R. Parajuli and Mr. Ek Raj Baral for their help. I cannot forget to thank Mr. Shiva Devkota, Mr. Jeeven Giri and Mr. Puspa Raj Acharya for their co-operation in different matters.

My deepest gratification goes to my parents along with other family members for their boundless inspiration and moral support for the academic career. I am greatly thankful to my nephew Mr. Amrit K.C. who regularly helped me in my field works.

At last I should express my thanks to all the faculty members and staffs of Central Department of Zoology who either directly or indirectly inspired me in this work. I should not forget to give special thank to Mr. Suresh Pradhan and Rabindra Maharjan of University Computer Service, Kirtipur who helped me for typing and printing this paper.

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## ABSTRACT

This work was carried out in and around Godawari, south east of the capital city, Kathmandu, Nepal with the objectives to assess the species diversity, species-richness and status of birds with seasonal variation and habitat types. For seasonal diversity of bird species four seasons (summer, autumn, winter and spring) were taken while the area was broadly divided into six habitat types (broadleaved subtropical forest, wooded grassland, human habitation edge, agricultural land, wetland and moist broadleaved lower temperate forest), for the assessment of species diversity in the major habitats of the study area. For the whole survey line transect method was adopted. Only primary data were used. Direct count method was applied to census the birds. Species diversity and relative diversity of the birds were calculated by using Shannon-Wiener function and Jacob's coefficient.

Altogether 161 birds species belonging to 11 orders and 36 families were observed in the study area. The highest number of species, one hundred and twenty seven (78.88%) was represented by the order passeriformes while the lowest number of species one (0.62%), was represented by the order apodiformes, upupiformes, coraciformes and ciconiformes each.

Out of 161 species, 109 (67.7%) species were resident species, 30 (18.63%) were winter visitor, 19 species (11.8%) were summer visitor and 3 species (1.86%) were passage migrant. This showed that the area is paradise for the resident birds. Similarly the highest species-richness was in subtropical broadleaved forest 106 species (65.83%) and the lowest in wetland 17 species (10.55%). The highest species diversity index was found in broadleaved subtropical forest (1.9035) and the lowest in human habitation edge (0.9896). Similarly relative diversity index was also found to be highest in broadleaved subtropical forest (0.9398) and the lowest in human habitation (0.7485).

Among the four seasons, the highest species-richness was found in winter 127 species (78.88%) and the lowest in autumn 100 species (62.11%). The highest species diversity index was found in winter (1.9355) and the lowest in autumn (1.8219). Similarly, the relative diversity was found to be highest in spring (0.9274) and the lowest in summer (0.9100). This result showed that the most favourable season was winter and the least favourable was autumn. The above figures of species-richness in different seasons and different habitats of the study area are not a cumulative figure because several birds have been seen in more than one habitat type and season.

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## LIST OF ABBREVAITIONS

AGRL	-	Agricultural Land
BCN	-	Bird Conservation of Nepal
BLT	-	Bird Life International
BPP	-	Biodiversity Profile Project
CITES	-	Convention on International Trade in Endangered Species of Wild Fauna and Flora
E	-	Endangered
FRISPF	-	Department of Forest Research and Survey, Ministry of Forest and soil conservation, Finland.
HHE	-	Human Habitation Edge
ICBP	-	International Council for Bird Preservation
ICIMOD	-	International Center for Integrated Mountain Development.
IUCN	-	International Union for Conservation of Nature and Natural Resources
KTWR	-	Koshi Tappu Wildlife Reserve
LRMP	-	Land Resource Mapping Project
NRDB	-	National Red Data Book
RCNP	-	Royal Chitwan National Park
S	-	Susceptible
T.U.	-	Tribhuvan University
V	-	Vulnerable
WGL	-	Wooded grassland
WL	-	Wetland