

**POPULATION STATUS AND HABITAT PREFERENCE OF
SPOTTED DEER (*Axis axis* Elxreben, 1777) IN GHAILAGHARI
BUFFER ZONE COMMUNITY FOREST, CHITWAN, NEPAL.**



Gita Sharma

T.U. Registration No: 5-1-19-47-2003

T.U. Examination Roll. No: 13060

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degree of Master of Science in Zoology with special paper Ecology**

**Submitted to
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RECOMMENDATION

This is to recommend that the thesis entitled “**Population Status and Habitat Preference of Spotted Deer (*Axis axis*) in Ghailaghari Buffer Zone Community Forest, Chitwan, Nepal**” has been carried out by **Gita Sharma** for the partial fulfillment of the requirements for the **Degree of Master of Science in Zoology** with special paper ‘**Ecology**’. This is her original work and has been carried out under my supervision. To the best of our knowledge, this thesis work has not been submitted for any other degree in any institutions.

Date:

Supervisor

Dr.Mukesh Kumar Chalise

Associate Professor

T.U, Kirtipur

2013

LETTER OF APPROVAL

On the recommendation of the supervisor Associate Prof. Dr. Mukesh Kumar Chalise, this thesis submitted by Gita Sharma “**Population Status and Habitat Preference of Spotted Deer (*Axis axis*) in Ghailaghari Buffer zone Community Forest, Chitwan, Nepal**” is approved for the examination and submitted to the Tribhuvan University in partial fulfillment of the requirements for the Degree of Master of Science in Zoology (Ecology).

Date: _____

Prof. Dr. Ranjana Gupta
Head of Department
Central Department of Zoology
TU, Kirtipur, Kathmandu

CERTIFICATE OF ACCEPTANCE

This thesis submitted by Gita Sharma entitled “**Population Status and Habitat Preference of Spotted Deer (*Axis axis*) in Ghailaghari Buffer Zone Community Forest, Chitwan, Nepal**” has been approved as a partial fulfillment of the requirements for the **Degree of Master of Science in Zoology (Ecology)**.

EVALUATION COMMITTEE

Associate Prof. Dr. Mukesh K. Chalise

Supervisor

Central Department of Zoology

TU, Kirtipur, Kathmandu

Prof. Dr. Ranjana Gupta

Head of Department

Central Department of Zoology

TU, Kirtipur, Kathmandu

External Examiner

Internal Examiner

Date of Examination: _____

DECLARATION

I hereby declare that the work presented in this thesis entitled **“Population Status and Habitat Preference of Spotted Deer (*Axis axis*) in Ghailaghari Buffer zone Community Forest, Chitwan, Nepal”** has been done by myself, and has not been submitted elsewhere for the award of any degree. All the sources of the information have been specifically acknowledged by reference to the author(s) or institution(s).

Date: _____

Gita Sharma

Batch: 2066/67

Roll no: 13060

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Gita Sharma

Reg.no: 5-1-19-47-2003

Exam Roll no: 13060

Batch: 2066/67

Ecology

ABSTRACT

The population status, habitat preference and the crop loss by Spotted Deer (*Axis axis* Erxleben, 1777) in marginal agricultural land was studied in Ghailaghari Buffer Zone Community Forest, Jagatpur, Chitwan from May 2012 to February 2013. Direct count method was used to estimate the population, quadrat sampling method was used for vegetation analysis, faecal pellets observation through line plot transect method was used to study habitat preference and questionnaire survey was used to evaluate the crop loss.

A total of 70, 77, 84 and 94 Spotted Deer were observed in Spring, Rainy, Autumn and Winter seasons during study period. The crude density was 44.87 individual/km², 49.35 individual/km², 53.84 individual/km² and 60.89 individual/km² in spring, rainy, autumn and winter season respectively. The male to female ratio was 1:1.29, 1:1.4, 1:1.344 and 1:1.343 and young to female ratio was 1:2.06, 1:2.05, 1:2.44 and 1:2.15 in spring, rainy, autumn and winter season respectively. The one way ANOVA test concluded that the calculated value (0.139) with df (3, 32) at 95% level of confidence signifies that there is no significant difference in number of Spotted Deer in different seasons. There was no significant difference in number of Spotted Deer in different blocks where calculated value was 1.051 having df (8, 27) at 95% confidence level.

Total floral species that occur in study area were 88 including 54 species of herbs, 23 species of shrubs and 11 species of trees. *Trewia nudiflora* was dominated tree (IVI= 75.82). Grassland was mostly preferred habitat with HP value 39.03 which was followed by Bhellar (*Trewia nudiflora*) - Sisoo (*Dalbergia Sisoo*) mixed forest (HP =33.8). Simal (*Bombax ceiba*) dominated forest was least preferred (HP= 27.55).

It was observed that the crop loss was more in ward no 1 (108.4) > ward no 2 (97.45) of Jagatpur VDC. The crop loss was estimated to be NRs 6,00,090 which was loss of NRs 9,676.87 per household. Result obtained from this study can be effective in conservation and management to enhance long-term survival of this species in the study area.

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ABBREVIATIONS / ACRONYMS

ANOVA	Analysis of Variance
B.S.	Bikram Samvat
BZCFOP	Buffer Zone Community Forest Operation Plan
cm	Centimeter
CNP	Chitwan National Park
df	Degrees of Freedom
DNPWC	Department of National Parks and Wildlife Conservation
GBZCF	Ghailaghari Buffer Zone Community Forest
GPS	Global Positioning System
ha	Hectare
IUCN	International Union for the Conservation of Nature and Natural Resources
kg	Kilogram
km ²	Square kilometer
mile ²	Square mile
MYA	Million Years Ago
NRs	Nepalese Rupees
VDC	Village Development Committee
WPA	Wildlife Protection Act