

Impacts of livestock grazing on bird communities in
the eucalypt woodlands (Australia) and the forests
in Bhutan

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Submitted in partial completion of Master of Science, University of New
England, 2004

DECLARATION

I certify that the substance of this thesis has not already been submitted for any degree and is not currently submitted for any other degree.

I declare that any help received in preparing this thesis, and all sources used, have been acknowledged in this thesis.



Tshering Dorji

ACKNOWLEDGEMENTS

The completion of this thesis would be difficult if not for the assistance and encouragement received from the numerous people.

In particular, my profound and heartfelt thanks to my supervisor Professor Hugh A. Ford for his invaluable support and encouragement through out the study. I am indebted to him for his advice on many aspects of the project and particularly for his kind attention and consideration that I have enjoyed.

My sincere thanks to my family, particularly my mother, my wife and her parents for their constant love and care through the years, though they have been far away from me. Heartfelt thanks also goes to my host family Richard and Pam Sheridan for being very supportive and kind to me in many ways during my stay in Armidale.

My heartfelt gratitude also goes to Stuart Cairns, my co-supervisors for pulling me through the hard times in statistics, Peter Clarke for his assistance in further analysis and producing beautiful ordination diagrams and Henry Tan for his beautiful work on designing the pictures in my thesis and particularly for his enormous help in proof reading and encouragement through out the write up.

My enormous gratitude also extends to Rebacca Pradhan, ecologist (RSPN) and Gyem Tshering, lecturer (NRTI) for making time to share their expertise on bird identification during my fieldwork in Bhutan and to NRTI (Natural Resources Training Institute) for allowing me to access some of their facilities during the fieldwork. I am also indebted to my friends Rinzin Gyeltshen, Karma, Kuenzang and Lhap Tshering for providing me with free accommodation during the fieldwork in Bhutan. I am thankful to Steve Debus, David Dye for the ride to the study sites in New England, David Woodland for his advice and proof reading my work.

My heartfelt thanks to Peter Burr at Newling Campus, UNE for giving me climatic data for each month and to Raling Ngawang, District Forestry Officer, Thimphu and Govinda Sharma, lecturer NRTI for giving me meteorological information on the study sites in Bhutan.

I am also thankful to my Bhutanese friends for their genuine support and encouragement rendered to me through out my write-up. I am thankful to Trin Truscett for technical advice and assistance during the write-up.

Last but not least, I would like to thank all the friends, other postgraduates students and members of Zoology department for their warm gestures and kind words during my stay in Australia.

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ABSTRACT

Habitat loss, fragmentation and degradation are regarded as the prime causes of bird loss and decline in agricultural regions in Australia. Livestock grazing is considered to have an impact on the bird community in remnant vegetation, but has received minimal attention to date. Livestock also graze large tracts of forest in Bhutan, and as yet no studies have been conducted to assess the impact of grazing on bird communities there. The goal of this study was to determine the species composition and abundance of birds in grazed and ungrazed sites in eucalypt woodlands in Australia, and in grazed and ungrazed chir pine and broadleaf forests in Bhutan. In both these regions, birds were surveyed by point counts. In general, I observed the following:

- 1) There was a marked difference in abundance of bird species between grazed and ungrazed sites in broadleaf forests in Bhutan but not in New England woodlands nor in chir pine forests in Bhutan.
- 2) A collection of habitat specialists remained more associated with ungrazed sites and a suite of generalists with grazed sites in both regions.
- 3) The broadleaf forest was richer in bird species than chir pine forest.

Although the impact of grazing on bird communities in New England woodland and chir pine forest was not as severe as in broadleaf forest, there were different bird assemblages at grazed and ungrazed sites. This suggests that the response of individual species or bird guilds provide a better interpretation of habitat-species relationships for conservation than do simple measures of diversity. In broadleaf forests in Bhutan, where grazing is more intense than in chir pine forests, the impact of grazing is severe. This impact is exacerbated further by lopping of tree branches by herders to supplement animal feed in winter. Although further research is needed in the forests of Bhutan, it is important that some areas of forest are maintained in an ungrazed state near villages.