

Forest Landscapes and Global Change

New Frontiers
in Management,
Conservation
and Restoration

Abstracts

Edited by
João Carlos Azevedo
Manuel Feliciano
José Castro
Maria Alice Pinto



IUFRO Landscape Ecology Working Group
International Conference

Bragança · Portugal
September 21 to 27, 2010

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Title: Book of abstracts of the IUFRO Landscape Ecology Working Group International Conference: Forest Landscapes and Global Change - New Frontiers in Management, Conservation and Restoration.

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Published by: Instituto Politécnico de Bragança
Apartado 1038, 5301-854 Bragança, Portugal
<http://www.ipb.pt>

Printed by: Serviços de Imagem do Instituto Politécnico de Bragança

Number of copies: 350

Depósito legal nº 315525/10

ISBN: 978-972-745-111-1

Cover design: Atilano Suarez, Serviços de Imagem do Instituto Politécnico de Bragança

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Poster Session Management and sustainability PM 10

RELATIONSHIP BETWEEN ANIMAL BEHAVIOUR AND LANDSCAPE ATTRIBUTES IN NORTHEAST OF PORTUGAL

MARINA CASTRO¹, JOSÉ FERREIRA CASTRO¹ & ANTÓNIO GÓMEZ SAL²

1-Instituto Politécnico de Bragança, Portugal; 2-Universidad de Alcalá, Madrid, Spain

The small ruminant production system in Northeastern Portugal is an extensive activity based on the exploitation of spontaneous resources. The shepherds direct their flocks on daily grazing itineraries over different land use types. These circuits differ hugely throughout the year in organization and duration. The places visited and time spent in each land use type depend on the environmental conditions and needs of the animals. Four flocks (two of goat and two of sheep) were monitored monthly for a year. Each flock was observed for a complete day by an operator using a hand held GPS. Data collected consists of geographical position and type of land use crossed, plus some variables of territory such as slope, altitude and air temperature. Also, animal behaviour was monitored. Behavioural activities (grazing, browsing, resting and walking) and the grazed species were noted every 15 minutes by direct observation (instantly recorded). The corrected frequencies approach was used for the data analysis. The principal aims were to examine the relationship between animal behaviour and land use types, and to check how it changes throughout the year and the time of day (temperature effect and vegetation moisture). Our results suggested a strong relationship between land use types and behavioural activities.

Poster Session Management and sustainability PM 11

ASSESSMENT OF HUMAN AND PHYSICAL FACTORS INFLUENCING SPATIAL DISTRIBUTION OF VEGETATION DEGRADATION - ENVIRONMENTAL PROTECTION AREA CACHOEIRA DAS ANDORINHAS, BRAZIL

MARISE BARREIROS HORTA¹ & EDWIN KEIZER²

1-Companhia Botânica Consultoria Ambiental, Brazil, 2-Instituto Nacional de Pesquisas da Amazônia, Brazil

This study examined the influence of human and physical factors in the spatial distribution of vegetation degradation in the Environmental Protection Area Cachoeira das Andorinhas (Brazil). Landsat TM image, topographic map, DEM and secondary data were used for generation of maps of the human and physical factors examined. Those factors comprised: roads network, rural settlements/village/city, tourist sites, mining sites, agricultural areas, drainage, slope and geology. The diagnosis of vegetation degradation was made with utilization of five ecological indicators: cover of invasive species, understory, canopy, bare soil and dead shrub percentage. The sample plots (47) were classified according to vegetation degradation variations. Regression and correlation analyses were used to investigate the relationship between vegetation degradation and human and physical factors. The factor slope presented significantly negatively correlated to vegetation degradation in forest areas. Distance to tourist sites showed significant negative correlation to vegetation degradation in the savannah and rocky shrublands formations. Those factors can enhance accessibility of humans and livestock to natural vegetation areas, which may increase intensity of damaging activities in areas of lower slope and shorter distance to tourist sites. The information can contribute to improvements in conservation management strategies in the protection area.

IUFRO Unit 8.01.02 Landscape Ecology
CIMO - Centro de Investigação de Montanha, Portugal
IPB - Instituto Politécnico de Bragança, Portugal

