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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Editors: João Carlos Azevedo, Manuel Feliciano, José Castro & Maria Alice Pinto

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September, 2010

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Welcome message

We, the local hosts, welcome you to the biannual IUFRO Landscape Ecology Working Group International Conference, in Bragança, Portugal, from 21 to 27 of September. We welcome you also to the city of Bragança and to the Instituto Politécnico de Bragança, Portugal.

This 2010 conference, organized by the IUFRO Landscape Ecology Working Group (8.01.02), the Mountain Research Centre (CIMO), and the Polytechnic Institute of Bragança (IPB) is dedicated to the theme *Forest Landscapes and Global Change - New Frontiers in Management, Conservation and Restoration*.

The conference will be attended by more than 300 participants from 46 countries. Most are from Europe (62%), followed by North, Central and South America (28%), Asia (7%), Africa (3%) and Oceania (1%).

The 2010 IUFRO Landscape Ecology Working Group International Conference witnesses the global growth of scientific interest in forest landscape patterns and processes, and the recognition of the role of landscape ecology in the advancement of science and management. This conference offers a venue to explore the challenges faced by scientists and practitioners by broadening the context of landscape ecology to emerging physical, social and political drivers of change, which strongly and rapidly influence forest systems and their services. During this conference, we address these topics via 300 presentations: in three keynote addresses, 12 symposia, 18 oral sessions, and two poster sessions.

For the organizing committee, CIMO and the Polytechnic Institute of Bragança putting together a conference of such magnitude in Bragança was an enormous challenge, and we hope that our response was successful. Above all, it is a great privilege for us to host this outstanding group of scientists, to contribute to the development of landscape ecology, and to foster a debate on real issues that influence not just landscape ecology but the society at large.

In this context, we thank you very much for your participation in this conference and your contribution to the advancement of research and applications in landscape ecology. Finally, we hope you enjoy your time with us in Bragança, in the Polytechnic Institute and in our Research Centre.

The organizing Committee
João Azevedo
José Castro
Manuel Feliciano
Maria Alice Pinto

Message from the Chair of the IUFRO Landscape Ecology WG

Twenty years ago, Dr. T. Crow and Prof. B. Anko initiated a proposal to establish a new working party (WP) within the Division 8 of IUFRO, known as landscape ecology. Back then, the field was in its most rapid growth period with many unknowns. Quite a few scholars challenged us about whether this young discipline was science. This challenge was partially important because landscape ecology has strong components and commitments to managers and policymakers. Today, landscape ecology is matured with solid principles and implementations in resource management. Many members of the WP made significant contributions to advance this field for its recognition. At the first international conference in 1990, there were a small handful of participants. After the announcement of this conference, over 400 abstracts were submitted. By August 6, 2010, there were 233 registered individuals from 44 countries.

Previous bi-annual conferences had been held in the United States, Japan, Italy, Canada and China. In the last decade, the WP also paid much attention to publishing the papers presented at our bi-annual conferences. Several books and special issues based on these conferences have been published. The WP is now soliciting proposals for future conferences. Please contact any of the committee members during the conference to discuss your interests and plans. One particular effort made by conference organizers and the WP committee is to support students. We believe that student participation is vital for both the science of landscape ecology and the growth of the WP. In 2008, we offered travel fellowships to over 28 graduate students and in 2010 we were able to support the same number of students.

We would like to offer special thanks to Dr. Thomas Crow for his leadership since 1990. The Working Party has grown to have a permanent Webpage, a listserv to promote communication, an online registration and a committee structure that is composed of regional coordinators and liaisons with the International Association of Landscape Ecology (IALE). As of July, 2010, there are 475 members in the WP database. The journal of Landscape Ecology reserves a special page for us to publish important developments from the WP. Since 2008, the WP started sponsoring summer short courses and regional workshops for researchers, students and managers. To keep our communication beyond this conference, I strongly encourage you to subscribe to a membership via our Webpage and share your experiences, new developments, personnel changes, etc. via the WP's listserv.

While growing, we face new challenges. The increasing influence from global change is, no doubt, a major one. The science of landscape ecology can no longer be independent of the changes surrounding us. An equally important issue is from the increasing demands of people and intensified activities. These challenges are the primary reasons for us to have the theme of this conference as "Forest Landscapes and Global Change: New Frontiers in Management, Conservation and Restoration". Through face-to-face interactions during the conference, I am very confident that everyone will be stimulated for new initiatives under this theme. However, we hope the stimulations will go beyond the conference and are translated to your daily actions after returning to your home.

The WP appreciates the kindness of Instituto Politécnico de Bragança to organize this conference. We also owe a lot to the members of the Organization Committee, Scientific Committee and the Scholarship Committee for their quality work over the past 48 months. Without the financial and in-kind support of many organizations, we would not be able to have this great conference.

Jiquan Chen
Chair, IUFRO8.01.02

Organization

IUFRO Unit 8.01.02 Landscape Ecology
Instituto Politécnico de Bragança
CIMO-Centro de Investigação de Montanha (Mountain Research Center)

Supporters

Câmara Municipal de Bragança
Sociedade Portuguesa de Ciências Florestais
Sociedade Portuguesa de Ecologia da Paisagem
IUFRO-IALE Working Group

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Telmo Dias, Instituto Politécnico de Bragança, Portugal
Virginia Rodrigues, Instituto Politécnico de Bragança, Portugal

Disturbances

Sep 22 17:30-18:30

Abst. #	Authors	Title
PD1	ADISON ALTAMIRANO, CHRISTIAN SALAS & VALESKA YAITUL	HUMAN-CAUSED FOREST FIRE IN MEDITERRANEAN ECOSYSTEMS OF CHILE: MODELLING LANDSCAPE SPATIAL PATTERNS ON FOREST FIRE OCCURRENCE
PD2	ANDREW BIRT, ROBERT N. COULSON, MARIA D. TCHAKERIAN, RICHARD FELDMAN, DAVID CAIRNS, CHARLES LAFON, FRED M. STEPHEN, KIER KLEPZIG & JAMES M. GULDIN	CLIMATE CHANGE EFFECTS ON REGIONAL POPULATION DYNAMICS OF THE SOUTHERN PINE BEETLE.
PD3	BRUCE ALLEN, KATHERINE L. MARTIN, REBECCA R. SHARITZ & P. CHARLES GOEBEL	TESTING CONCEPTS OF COMPLEXITY IN NATURAL AND MANAGED FORESTS: LESSONS FROM SOUTHEASTERN BOTTOMLAND HARDWOODS
PD4	EVI WARINTAN SARAGIH, JAN BOKDAM & WIM BRAAKHEKEE	EFFECTS OF ENDOZOOCHOROUS SEED DISPERSAL ON THE SOIL SEED BANK AND VEGETATION IN THE WOODLAND AREA
PD5	JOÃO C. AZEVEDO, E. FERNÁNDEZ-NÚÑEZ, L .MIGUEL, A. AMADO, A. POSSACOS & C.F. AGUIAR	HERBACEOUS PLANT DIVERSITY ACROSS FIRE CREATED EDGES IN CONTINENTAL HOLM OAK WOODLANDS
PD6	KOSTAS POIRAZIDIS, KONSTANTINA ZOGRAFOU, PANAGIOTIS KORDOPATIS, DIONISIOS KALIVAS, MARGARITA ARIANOUTSOU, DIMITRIOS KAZANIS & EVI KORAKAKI	COMBINING MULTI-CRITERIA EVALUATION AND GEOSTATISTICS TO PREDICT POST-FIRE REGENERATION OF PINUS HALEPENSIS AT A REGIONAL SCALE
PD7	OVIDIU IACOBESCU, IONUT BARNOAIEA & ADRIANA ROXANA BARNOAIEA	THE INFLUENCE OF LAND DEGRADATION AND ECOLOGICAL RECONSTRUCTION ON LANDSCAPE STRUCTURE IN HILLY REGION OF NORTH EASTERN ROMANIA
PD8	RASA DOBRAVOLSKAITĖ	EFFECTS OF NON-NATIVE PLANT SPECIES ON FOREST COMMUNITIES IN LITHUANIA
PD9	THOBAYET ALSHAHRANI & FARES ALSEWALIM	IMPACT OF PLASTIC WASTES ON GROWTH OF Lasiurus scindicus HENR
PD10	THOMAS CURT	ASSESSING THE FIRE-RESISTANCE AND THE FIRE-RESILIENCE OF LANDSCAPES IN SOUTHERN FRANCE TO MITIGATE THE IMPACT OF CLIMATE CHANGE

Management and sustainability

Sep 22 17:30-18:30

Abst. #	Authors	Title
PM1	A. GIRMA, R. MOSANDL, HANY EL KATEB & F MASRESHA	RESTORATION OF LANDSCAPE WITH NATIVE TREE SEEDLINGS AND THEIR RESPONSE TO VARIABLE LIGHT CLIMATE: A CASE STUDY OF ENRICHMENT PLANTING IN ETHIOPIAN HIGHLANDS
PM2	ASSU GIL-TENA, LLUÍS BROTONS & SANTIAGO SAURA	DISENTANGLING RECENT CHANGES IN FOREST BIRD RANGES IN MEDITERRANEAN FORESTS (NE SPAIN): ASSESSING GLOBAL CHANGE IMPACTS AND GUIDING LANDSCAPE MANAGEMENT
PM3	ELENA VOLKOVA	THE REGIONAL ANALYSIS OF FOREST MANAGEMENT RISKS (BY THE EXAMPLE OF RUSSIAN NORTHERN AREAS)
PM4	ESMAEIL KOUHGARDI, ELAHE SHAKERDARGAH, MEHRDAD AKBARZADEH	VALUES OF MANGROVES AND ITS INTERACTION WITH MARINE ECOSYSTEM IN A NATURAL LANDSCAPE
PM5	FELÍCIA FONSECA & TOMÁS DE FIGUEIREDO	IMPACT OF TREE SPECIES REPLACEMENT ON CARBON STOCKS IN FOREST FLOOR AND MINERAL SOIL
PM6	IGNACIO SCHIAPPACASSE, LAURA NAHUELHUAL, FELIPE VÁSQUEZ & CRISTIAN ECHEVERRÍA	ESTIMATING NON-MARKET COSTS AND BENEFITS OF FOREST RESTORATION IN THE DRYLAND LANDSCAPE IN CENTRAL CHILE.
PM7	IGNACIO SCHIAPPACASSE, CRISTIAN ECHEVERRÍA, ROCÍO URRUTIA, MIGUEL CÁRCAMO, CECILIA SMITH-RAMÍREZ, LAURA NAHUELHUAL & ADRIAN C. NEWTON	POLICY RECOMMENDATIONS FOR CHILEAN DRYLAND FORESTS LAND-USE PLANNING
PM8	MARIA PATRICIO, LUIS NUNES, LORETO MONTEIRO & HELENA ALMEIDA	ADAPTABILITY OF NEW PROVENANCES OF QUERCUS SUBER IN TRÁS-OS-MONTES, PORTUGAL: ITS IMPORTANCE FOR THE SUSTAINABILITY OF THE FOREST SYSTEMS
PM9	MARIANA A. CARVALHAES, RENATA E. OLIVEIRA & JOÃO D. SANTOS	FOREST MANAGMENT AS A TOOL FOR LANDSCAPE RESTORATION IN THE BRAZILIAN ATLANTIC FOREST
PM10	MARINA CASTRO, JOSÉ FERREIRA CASTRO & ANTÓNIO GÓMEZ SAL	RELATIONSHIP BETWEEN ANIMAL BEHAVIOUR AND LANDSCAPE ATTRIBUTES IN NORTHEAST OF PORTUGAL
PM11	MARISE BARREIROS HORTA & EDWIN KEIZER	ASSESSMENT OF HUMAN AND PHYSICAL FACTORS INFLUENCING SPATIAL DISTRIBUTION OF VEGETATION DEGRADATION - ENVIRONMENTAL PROTECTION AREA CACHOEIRA DAS ANDORINHAS, BRAZIL
PM12	NATALIYA STRYAMETS, MARINE ELBAKIDZE, PER ANGELSTAM & ROBERT AXELSSON	UTILIZATION OF NON-WOOD FOREST PRODUCTS IN A TRANSITION ECONOMY: RURAL UKRAINIAN ROZTOCHYA REGION AS A CASE STUDY
PM13	THOMAS CORDONNIER, CHRISTOPHE CHAUVIN, CHRISTIAN GINISTY,JEAN-DENIS MATHIAS, FRANCIS BIGOT DE MOROGUES, JEAN-LUC DUPOUEY, PHILIPPE DREYFUS,NICOLAS ROBERT, XAVIER ROCHEL, SANDRA LUQUE & ARMELLE CARON	FROM METAPHOR TO ACTION : IMPLEMENTING VIABLE FOREST ECOSYSTEM MANAGEMENT IN LANDSCAPES. THE FORGECO PROJECT.

Scaling in landscape analysis

Sep 22 17:30-18:30

Abst. #	Authors	Title
PS1	DAVID SÁNCHEZ DE RON, LLUIS BROTONS, SANTIAGO SAURA & JOSÉ M. GARCÍA DEL BARRIO	HABITAT SUITABILITY MODELS FOR TWO SPECIES OF FOREST RAPTORS IN CATALUÑA. METHODOLOGICAL CONSEQUENCES RELATED WITH DIFFERENT SCALES AND DATA SOURCES
PS2	NAOKO FUJITA, NOBUSUKE IWASAKI & DAVID S. SPRAGUE	RESTORATION AND EVALUATION OF SATOYAMA/SHRINE FOREST LANDSCAPE ANALYZED WITH HABS(THE HISTORICAL AGRO-ENVIRONMENT BROWSING SYSTEM) AND A COLLECTION OF OLD PICTURES PAINTED IN THE MIDDLE 19TH CENTURY
PS3	RUI CORTES, SIMONE VARANDAS, SAMANTHA HUGHES, MARCO MAGALHÃES & AMÍLCAR TEIXEIRA	ENVIRONMENTAL DRIVERS OF BENTHIC COMMUNITIES: THE IMPORTANCE OF LANDSCAPE METRICS.

Poster Session **Management and sustainability PM 8**

ADAPTABILITY OF NEW PROVENANCES OF QUERCUS SUBER IN TRÁS-OS-MONTES, PORTUGAL: ITS IMPORTANCE FOR THE SUSTAINABILITY OF THE FOREST SYSTEMS.

MARIA PATRICIO[1], LUIS NUNES[1], LORETO MONTEIRO[1] & HELENA ALMEIDA[2]

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Quercus suber (Cork oak), an important species in the areas of Mediterranean influence, presents high potential of expansion regarding expected climatic changes. Nowadays, cork oak area in Trás-os-Montes is 6380 hectares and is an important species to consider in the adaptive silviculture strategies in response to the climatic changes. Cork oak woodlands plays an important role on the rural economy, as a source of cork, high quality fruits for cattle, pastures, aromatic and medicinal plants and game habitat. Despite its ecological and socio-economic importance, cork oak adaptability to environmental conditions is poorly understood. Furthermore, climate change scenarios foreseen enhanced water deficits in the Mediterranean region and therefore, to allocate the most adequate seed sources to each set of climatic conditions in future afforestation activities, is an important task for forest landowners. Considering that an important source of variation in the characteristics related with adaptability may be at the provenance level, we evaluated inter-provenance variability at a trial in Mogadouro (Trás-os-Montes). Such trial is part of a multi-locality provenance test belonging to an Euforgen network, where 35 populations from the natural cork oak distribution area are represented. After ten years, results point out the importance of considering the seed origin: significant differences between populations were observed for survival and height. The highest growth is being observed in the Moroccan provenances and French ones showed lowest survival.

Poster Session **Management and sustainability PM 9**

FOREST MANAGMENT AS A TOOL FOR LANDSCAPE RESTORATION IN THE BRAZILIAN ATLANTIC FOREST

MARIANA A. CARVALHAES[1], RENATA E. OLIVEIRA[2] & JOÃO D. SANTOS[3]

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The Brazilian Atlantic Forest (BAF) is considered a global hotspot of biological diversity. Therefore, countering the effects of past forest loss and fragmentation via habitat protection and restoration should be treated as crucial priorities in this biome. The most used restoration technique is the planting of many native species from different functional groups. Our goal was to find species that can be managed, supply important forest products, and also used in restoration projects. A secondary data was searched and analyzed to list these species. A total of 48 tree species were identified as raw material for forest products management. These supply 22 categories of timber and non-timber products. Moreover, the natural distribution of these species was analyzed aiming at trees of possible use in large scale projects. Two species were restricted to one Brazilian state only, six were distributed in one region, 21 occurred in two regions and 19 species were scattered along the coast. The vast majority of species (80%) had a widespread distribution along the Brazilian coast, so theoretically, these should be more suitable for projects involving restoration and management.