


WFC 2009

 XIII Congreso Forestal Mundial
 XIIIth World Forestry Congress
 XIII^e Congrès forestier mondial
 Buenos Aires | Argentina

XIII World Forestry Congress
ABSTRACTS

18 - 23 october 2009

<< BACK

Español

ABSTRACTS
TITLE:
AUTHORS:
THEME:

Theme

SUBTHEME:

Subtheme

Search

Title: Soundscape evaluation in urban green spaces: The case study of Bragança, Portugal

Authors: Feliciano, Manuel; Maia, F. ; Gonçalves, Artur; Ribeiro, António; Francisco, Marta; Fernandes, S.; Nunes, Luís

Thema: 3. Forests in the service of people

Subtheme: 3.3 Tourism and recreation

Abstract of the paper: M. Feliciano^{1,2*}, F. Maia¹, A. Gonçalves^{1,2}, A. Ribeiro^{1,2}, M. Francisco¹, S. Fernandes, L. Nunes^{1,2}. ¹Centro de Investigação de Montanha (CIMO), Campus de Santa Apolónia, Apartado 1172, 5301-854 BRAGANÇA, Portugal, +351273303200, +351273325405, msabenca@ipb.pt, www.esa.ipb.p ²Escola Superior Agrária, Instituto Politécnico de Bragança, Campus de Santa Apolónia, Apartado 1138, 5301-854 Bragança, Portugal. Urban noise pollution is a growing environmental problem with severe consequences on the human health. Urban green spaces have increasingly been considered as part of an effective and sustainable solution based on a constructive city planning process. The positive impacts of the vegetation in urbanized areas rely mostly in its ability to attenuate noise levels and to preserve the natural urban soundscapes. In the framework of a research Project (The Impacts of Green Spaces on Urban Environmental Quality), which has been developed in the city of Bragança, Portugal, the acoustic environment of some urban green spaces were objective and subjectively evaluated, with purpose of finding out the influence of these spaces in generating more appraisal urban soundscapes. To achieve this objective, an intensive questionnaire survey and sound measurements were performed in four different public green spaces, from May to September of 2007. A total of 200 interviews were made, through which green space's users were required to express their opinion on local soundscape. Taking into account several acoustic parameters, such as statistical measures of sound level, psychoacoustics indicators and the spectrum gravity centre, distinct acoustic environments were found in each green space, either with respect to magnitude or content of the sound. Mechanical sound from traffic road is the most prevailing sound in all studied green areas, affecting negatively their soundscapes and sometimes their uses. However, appraisal situations arising from the hearing of pleasant sounds produced in the green space, affecting positively the visitors and the site's neighbours, were also identified. Cross analyses between survey data and acoustic parameters show that sound intensity is not the only factor determining the quality of acoustic environment. In general, the subjective evaluation relates well with some acoustic parameters, especially in those areas where the prevailing sound is mechanical. Soundscapes with natural sounds, such as water movement and chirp birds, are systematically preferred by interviewees, even when exposed to higher noise levels. This finding is in good accordance with expectations, since sound pleasance or sound nuisance depends on other factors further sound level pressure, such as human sensibilities and additional information contained in the sound.

Email: msabenca@ipb.pt, msabenca@ipb.pt, ajg@ipb.pt, atrib@ipb.pt, martafrancisco@portugalmail.pt, msabenca@ipb.pt, lfnunes@ipb.pt

Full paper: -

WFC2009 - XIII WORLD FORESTRY CONGRESS 18 - 23 OCTOBER 2009
PASEO COLÓN 982 - ANEXO JARDÍN - C1063ACV - BUENOS AIRES - ARGENTINA