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**ENVIRONMENTAL MODELLING OF LOW-IMPACT LANDSCAPED
PATHS FOR LINEAR INFRASTRUCTURE IN “LAS BATUECAS-SIERRA
DE FRANCIA” AND “QUILAMAS” NATURE PARKS
(CENTRAL SYSTEM, SALAMANCA, SPAIN)**

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Abstract

The great degree of human development in recent centuries has generated an environmental problem: the spread of human activities through the landscape without sustainable planning. Currently, most natural areas of the planet that are protected for their natural resources have not been impacted by linear infrastructure. The landscape is one of the natural resources that is adversely affected by linear infrastructure. In this short essay, a methodological procedure is described that is easy to use and cost effective and allows for early stage environmental planning. The method uses environmental assessment maps in which weighted pixel values for landscape quality and visual fragility are predetermined. GIS techniques, such as accumulated costs and driving direction scripts, are used to calculate linear infrastructure routes that have the lowest environmental impact. The optimal path is generated by quantitatively calculating the impact of each map pixel along the route such that alternative routes can be selected prior to construction. This method is a powerful tool for environmental modelling focused on the avoidance of environmental impacts during the assessment phase of a project.

Key words: environmental assessment, GIS, landscape environmental impact, linear infrastructure, nature parks

Received: March, 2016; Revised final: November, 2016; Accepted: December, 2016; Published in final edited form: May 2019

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