

LANDSCAPE ECOLOGY AND WILDFIRE PREVENTION IN THE MEDITERRANEAN. AN APPLICATION IN CATALONIA, SPAIN.

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EXTENDED ABSTRACT

Even though wildfire has always been an integral characteristic of the Mediterranean ecosystem, human intervention, to the favour of wildfires, has inclined the scales against its prosperity. Landscape ecology can help us understand the response of this unique landscape to such disturbances and thus take us one step further in fighting the catastrophe. This paper presents the methodology and results of a study over the impact of land use changes and natural regeneration after a large wildfire in Bages-Berguedà (Catalonia, NE Spain), on future wildfires prevention. It defines the term flammable area as the surface with continuous combustible, and by assigning it to the matrix the whole landscape is analyzed through the prism of landscape ecology. Parameters such as matrix fragmentation and porosity as well as patch size and area/perimeter ratio are studied statistically with the scope to understand if the new landscape shaped after the fire will be prone to future large wildfires. To understand the contribution of the land use changes only to this shaping, an imaginary post-fire landscape without the land use changes is created. The comparison between the two landscapes leads to interesting results that could propose feasible human interaction for creating a more fire resistant landscape. Furthermore it is encouraging for moreover studies with this approach.

Key words: landscape ecology, forest wildfire, wildfire prevention, land use, Mediterranean, post-fire study