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Short contribution – Fire at the Wildland Urban Interface

Institutional engagement and public involvement at the WUI. A case study in the South of Spain: Córdoba municipality

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1. Introduction & antecedents

There are numerous cases of emergencies in fire prone and wildland urban interface areas that have occurred during the last years, with an exponential growth as time goes by. In Spain most of the situations were declared level 2 (out of a maximum of 3), fires endangering seriously people and properties- according to the current Basic Civil Protection Directive.

Some close examples, all of them recognizable by the media, occurred last year. We must remember numerous cases where populations were affected and dramatic fire situations with thousands of evacuated and killed people (Doñana National Park-Spain, Encinedo-León, Galicia, Tejeda-Gran Canaria, Pedrógão Grande, Coimbra, Valença, Sertã, Viana do Castelo, Braga, Viseu and Monção in Portugal; Var, Bouches-du-Rhone and Vaucluse, Corsica, Marseille and Nice in France; Campania, Calabria, Puglia, Tuscany, Lazio, Sicily and Sardinia, Enna, Messina and Palermo in Italy; Athens, in Greece; Valparaíso, in Chile; Los Angeles, in California).

2. Córdoba municipality

The reality of the municipality of Córdoba was included in 2011 in the PYROSUDOE European Project focused on forest fire risk perception in the southeast and southwest of the Mediterranean WUI areas. The general objective was the characterization of WUI municipalities of Córdoba and Almodóvar del Río. It consisted on a preliminary study on fire reality at WUI areas and their associated risks reflecting, analyzing and proposing a basic action guide for preventive purposes and future applications. The specific objective of the work was to review the territory in order to characterize and distribute the WUI situations in the municipalities of Córdoba and Almodóvar del Río, and their risks associated with forest fires.

A diagnosis of the urban-forest interface was obtained in relation to the risk associated with forest fire episodes, identifying the types of interfaces, estimating the associated vulnerability, obtaining cartography of the distribution and incorporating this study into the calculation of fire risk.

The municipality of Córdoba (Spain) is one of the largest municipalities in the homonymous province. Within its area of 1,255 km² the presence of areas of wildland urban interface is widespread and the occupation of the territory with this spatial



Figure 1 - The reality of the municipality of Córdoba (Spain) seen from the North of the city.

structure is extensive. In recent years, urban expansion in forestry has entailed a new problem such as the scenario of forest fires near or within urban settlements. To the techniques and protocols for fire suppression, often limited in these environments, it is necessary to add those of civil protection since people, properties and infrastructures are threatened and affected by fires and smoke.

3. The forest, territorial and fire regulations

The present fuels, which are no longer only of a vegetable / forestry nature, as well as the infinite combination of possible situations, make it difficult to work in these areas. The suppression in the WUI needs, therefore, an adaptation of the current Incident Command System, that is, the way in which the operation is organized in the intervention. It must be adapted to the emergency in which it is not possible to rely on the generalized application of the same attack techniques that have been used until in previous interventions. From current legislation it is necessary to question whether the current texts are sufficient and are updated enough to deal with the problem in a practical and problem solving way. In this sense we should consider the validity of the current Basic Guideline for Emergency Civil Protection Planning for Forest Fires, (RD 893/2013), the current State Forestry Law 43/2003, the autonomous articles as well as the provincial and municipal ones.

4. Institutional engagement and public involvement at the WUI.

The Consejería de Medio Ambiente y Ordenación del Territorio, Regional and local forest Administration, are trying to communicate to people a forest culture in terms of the proper use of fire and its implication in a context of urban-based communities in the areas of the municipality. Fuels management in WUI zones (private and public lands) and public information (residents and scholars) are considered as essential matter and they are welcomed by residents and general public.

4.1. Fuels management in WUI zones.

This action it is focused on three types of action areas depending on the distance between structures and fuels. It is considered location of the structures as well as actual fuels structure versus future structure after management of them and the type of action in each one.

Fuels management depends on priority zones Priority 1 (0-10 m), Priority 2 (10-30 m) and Priority 3 (30-100 m). It is also regulates the fuels management around power lines

Fuels elimination is made following fire regulations and it depends on the moment of year in which they are generated. The can be eliminated using fire under and strict observance of weather and public occupation in forest areas.

4.2. Public information

Residents in WUI areas in the municipality of Córdoba receive annual information regarding to fire uses, fire regulations and which implications of a bad use of fire could affect (more) negatively on wildland firefighters operations and safety.

In early ages the “Crece con tu árbol” (“Growing up beside your tree”) andalusian programme has created and educational context in terms of culture of fire use by visiting primary and secondary schools in the municipality.

5. Conclusions

Forest forestry and forest fire prevention in forestry so far had been based on the so-called classical forestry actions such as the repopulation of areas affected by fires or diseases, the repair of roads and hydrological correction combined with a reasonable use of fire in order to use and exploit the forest biomass generated and available in the forest.

However, changes in social uses have compromised the maintenance of our forests and the involvement of the population with them. In these new realities and from the operational point of view and intervention in the emergency, new strategies and new tactics of struggle and suppression are imposed. In that sense we should consider what happens with territorial planning policies, why we have reached these realities and what solution(s) can be given. The combination of possibilities and territorial variety of forms of the problem leave numerous examples that illustrate the problem of an emergency in the urban-forest interface. It is in these moments in which one considers how to act in such a reality.

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