

Reinforcing civil protection capabilities into multi-hazard risk assessment under climate change



Funded by European Union Humanitarian Aid nd Civil Protectior

PRIORITIZING FUEL MANAGEMENT AT WILDLAND URBAN INTERFACES IN PORTUGAL

Dissemination session for local scope 23rd November 2021

Catarina Sequeira

Instituto Superior de Agronomia (CEABN-ISA), Universidade de Lisboa

















WILDFIRE MANAGEMENT IN PORTUGAL

• Fuel management legislation

National Regional District Municipal



Description of legal obligations	Band width (m)
Constructions within rural areas (buildings, construction sites, warehouses, other construction buildings)	50
WUI areas (10 or more buildings spaced not more than 50 meters)	100
Camping sites and picnic sites	100
Forest road network	10
Gas transmission network	10
Very high voltage energy transmission network	10
Fuel management plot mosaics (agricultural land, inland water, rock outcrops, golf courses, wind farms)	-
Water points	30
High voltage energy transmission network	10





PRIORITIZING FUEL MANAGEMENT AT WUI – Objectives



- Phased intervention
- Ensure the adequate implementation of current fuel management legislation
- Increase the effectiveness of operations in the prevention phase of the disaster risk management cycle

Database of plots to be inspected annually according to fuel management priorities for fire prevention







PRIORITIZING FUEL MANAGEMENT AT WUI – Objectives

CRITICAL AREAS FOR FUEL MANAGEMENT FOR LANDOWNERS AND INSPECTION





MATRIX FOR THE DSS

Objective		Торіс	Value = 1	Value = 0
Map of obligations and opportunities for fuel management	Legal obligations for fuel management		If the fuel management band if of 1 st , 2 nd , or 3 rd order	If the fuel management band <u>is not</u> of 1 st , 2 nd , or 3 rd order
	Community risk preparedness	Time of first intervention	If the distance from fire station is ≥ 20 minutes	If the distance from fire station is < 20 minutes
		Fuel treatments performed	If no fuel treatments were performed in the past 4 years	If <u>at least 1</u> fuel treatment was performed in the past 4 years
		Escape routes	If it is a no-exit road or If it is a one-way road or If the road in bad conditions	If it is, <u>at least</u> , a two-way road or If there are 2 roads in opposite directions
Map of fire risk	Hazard		In a classification 1 to 5: If hazard is 4 or 5	In a classification 1 to 5: If hazard <u>is not</u> 4 or 5
	Potential damage	Ecological	If there are ecological features	If there <u>no</u> ecological features
		Social	If there are social features in a 100 meters buffer	If there are <u>no</u> social features in a 100 meters buffer





Mafra case study







Materials

	Торіс	Sapefile	Format	Source
1	Administrative boundaries	Carta Administrativa Oficial de Portugal (CAOP)	Vector (polygon)	DGT
2	Fuel management bands	Faixas de gestão de combustível com classificação Rede_DFCI	Vector (polygon)	Municipality
3	Land register	Cadastro	Vector (polygon)	Municipality
4	Forest road network	Rede Viária Florestal com identificação da classificação DFCI	Vector (line)	Municipality
5	Land register with information on clearings	Data das limpezas de terrenos efectuadas nos últimos anos	Vector (polygon)	Municipality
6	First intervention	Distância, em minutos, ao quartel de bombeiros	Vector (polygon)	Municipality
7	Potential ecological damage	Habitats, RedeNatura2000, Fauna	Vector (polygon)	Municipality
8	Potential social damage	Infraestruturas criticas	Vector (point)	Municipality
9	Hazard	Perigosidade, elaborada no âmbito do PMDFCI	Raster (pixel 10)	Municipality





Methodology - Step by step









-



Case study - Final remarks



Funded by European Union Humanitarian Aid and Civil Protection

30.974 properties in register in Mafra

44% of the total plots (5559 ha) are located in fuel management bands Approx. 1279 ha, corresponding to 5070 plots, are classified as "non-priority for fuel management for fire prevention" Optimization of inspection resources

and community awareness

NEXT STEPS for Mafra:

- (1) must always be fuel managed
- (2) must be treated 3 times every 10 years
- (3) must be treated 1 to 2 times in 10 years



Thank you

Catarina Sequeira

<u>ceabn@isa.ulisboa.pt</u>

Instituto Superior de Agronomia (CEABN-ISA), Universidade de Lisboa















Funded by European Union Humanitarian Aid and Civil Protection