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**PREVENTION ACTION INCREASES
LARGE FIRE RESPONSE PREPAREDNESS**

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WP4 – FUEL MANAGEMENT SMART SOLUTIONS TOWARDS FIRE RESILIENT LANDSCAPES

**Deliverable 4.1 – Working paper on cases, agencies and actors
identified**

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1. Objectives and description of the report of *Task 4.1 – Identification of agencies involved in fuel management*

The main objective of *Task 4.1 – Identification of agencies involved in fuel management* – of PREVAIL Project is mainly to identify public land management agencies that deal with fuel management programs in each partner country or region in Italy, Spain, Portugal and Greece. The survey focusses overall in the agencies or institutions involved in fuel management projects financed by European Union funds as the Rural Development Program (RDP), LIFE Projects, etc. Along this Task, an active participation of each partner collecting national data is promoted following a common scheme for data analysis.

This task includes two levels of survey. The main first, identifying the public institutional framework of fuel management for wildfire prevention. Complemented by a second one including other public or private institutions or consortiums linked with relevant initiatives related to fuel management, with special consideration of EU funded projects. The survey is focused on practical or transferable initiatives. No successful “side” of the initiatives has also been considered, in terms of lessons learned. These initiatives will take part of the fuel management “smart solution” selection, that will be wider developed through the *Task 4.2 - Fuel management smart solution assessment*.

A short description of the institutional framework highlighting how fuel management is organized is done. A description of each initiative is developed as well. In both cases, common templates have been distributed to undertake the collection (Chapter 2). All information collected is presented in the Annexes.

The institutional framework of each partner country/region allows to know, among others: who does what (e.g. main tasks of the responsible agencies), which phases of the Disaster Risk Management (DRM) cycle are covered and through which agencies/actors and institutional competences (Chapter 3).

The collection of initiatives serves to identify “smarts solutions” towards fuel management for wildfire prevention (Chapter 4). There is no standard definition of **fuel management smart solutions**. Within the Project, they are understood as **practical measures and initiatives implemented in a sustainable manner, enhancing the cost-efficient ratio, optimizing the synergies and cooperation from a multi-objective perspective, able to capitalize the best existing knowledge and being permanently updated under a lessons learn approach**.

Normally the collection of information is done at national level. In the case of Spain, and according the decentralized mode of competences in wildfire risk management in most of the Autonomous Communities of the country, the research is done at regional level in Catalonia. International initiatives beyond the partnership countries has been included in the selection.

2. Methodology

Each partner has reported the institutional framework of fuel management for wildfire prevention of its own country/region, and optionally relevant related initiatives at national or regional level.

In order to harmonize the information collected about the institutions and initiatives, a common template to fill by each partner was provided, defining the specific information to be analyzed. They are organized in three different fields of information.

In the template for the **Institutions** (see Figure 1), there is a first section of *Basic information* where appears:

- Identification number.
- Name of institution.
- Institution profile: public or private.
- The territorial level: regional/sub-regional, national or European.
- Specific territory of action.

The second section is composed by the *General competences* of the institution, according DRM cycle phases (see Annex 1), following the same categories used in Work Package (WP) 2. Five categories are defined, two for the **Prevention phase** distinguishing the **Active** from the **Passive** one:

- **Active prevention:** Action directly related to wildfire prevention as firebreaks and fuelbreaks, water points, fuel management in strategic points, silvicultural intervention to increase resistance and resilience to fire disturbance, etc.
- **Passive prevention:** Actions involving fuel removal, through the maintenance of forestry and agriculture activities on the territory, which indirectly affects fuel loads distribution at landscape level. Three subcategories are established:
 - **Forestry production:** Actions related to forest management and forest products mobilization (wood and non-wood forest products – except grasslands-) such as selective and commercial thinning, clear cuttings, coppicing, cork exploitation, forestry trails constructions for wood mobilization, etc.
 - **Maintaining mosaic landscape and grazing:** Actions related to crop lands and mosaic landscape maintenance, and the related farming and grazing activities (including grasslands and complementary grazing of forest understory).
 - **Other societal and structural support to rural development:** Actions of support to rural development as training, extension services, support for business, basic services for the economy and rural population, etc.
- **Preparedness:** Actions related to preparation of the exposed population and services to manage the potential emergencies and wildfire impact.
- **Response:** Actions related to fire suppression and emergency management when a wildfire happens.
- **Recovery:** Actions related to the restoration and recovery of burnt areas.

The third section includes the *Description and complementary information* with four sub-sections:

- Short description and main fuel management programs: scope, objectives, target, etc. Specific reference in relation with fuel management programs should be included.
- Complementary information: main regulatory frame, planning tools, organizational support tools and other related policy instruments related with fuel management.
- Web link.
- Contact (the information is only for internal use and, therefore, it is not included in the annexes of this report).

Figure 1. Common template to identify and describe institutions involved in fuel and fire risk management

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 1
Institution				<input type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place		
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs				
Complementary information				
Web link				
Contact				

The template for the **Initiatives** (see Figure 2) is very similar to the previous one.

The first section regarding *Basic information* includes the same fields of information plus the name of the promoter of the initiative:

- Identification number.
- Name of the initiative.
- Promoter of the initiative.
- Territorial scope: Regional/Sub-regional, National or European.

- Place where is implemented.

The *General focus* of the second section includes the same categories into DRM cycle phases used in the institutions template.

The third section regarding the *Description and complementary information* is composed by:

- Main category that defines the type of resource:
 - Best practice.
 - Field reference guide / Training material.
 - Mobile application / Portal website.
 - Software / Information Technology / Decision Support System.
 - Video / Media resource.
- Available languages: language/s in which the initiative can be search, use and transferred.
- Short description: scope, objectives, target, etc. Specifying the added value of the initiative in relation with smart solution towards fire resilient landscapes.
- Complementary information: publications, figures, apps., etc., related with the initiative.
- Web link.
- Contact (in the case of personal contact, this information is only for internal use and, therefore, it is not included in the annexes of this report).

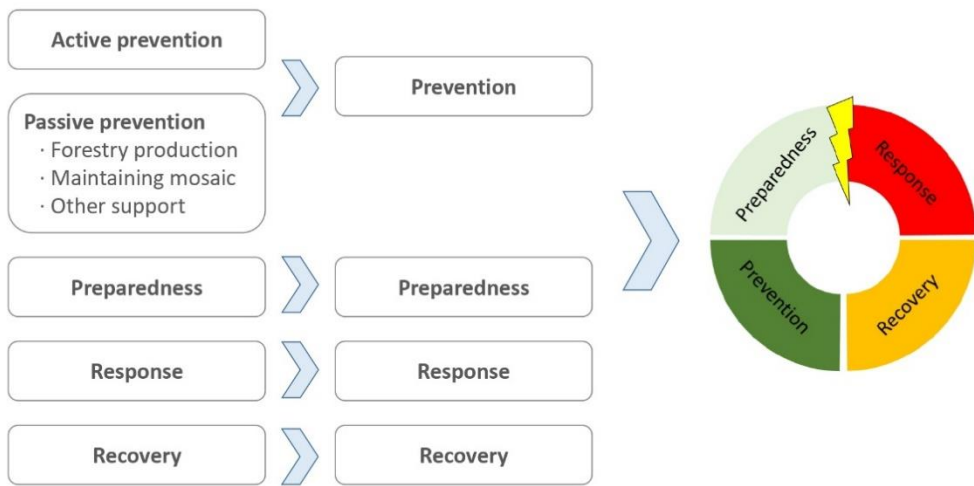
Figure 2. Common template to identify and describe initiatives and smart solutions towards wildfire resilient landscapes

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID Init_
Initiative				
Promoter				
Scope	<input type="checkbox"/> Regional/Sub-regional	<input type="checkbox"/> National	<input type="checkbox"/> EU	Place <input type="text"/>
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input type="checkbox"/> Best practice		<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web		<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages				
Short description				
Complementary information				
Web link				
Contact				

The Annexes 2, 3, 4 and 5 of this document, exposes all the templates collected. They are ordered by country.

The Figure 3 organize all defined phases on the templates within the DRM cycle.

Figure 3. Scheme of DRM cycle phases organized



3. Institutional framework in fuel and wildfire risk management

To describe the data analysed, the information is organized according the different sections of the templates described in chapter 2. First, a general description of results is done, followed by the national/regional data.

3.1 General results

It has been collected a total of 67 templates, representing different territorial/competences/hierarchical levels of organization (see Chapter 3.2).

In the case of Italy, with 34 Institutions described (id), the institutional framework is organized by type of institution (Forest Service, Civil Protection Sector, Union of Municipalities, etc.) and the territorial scope.

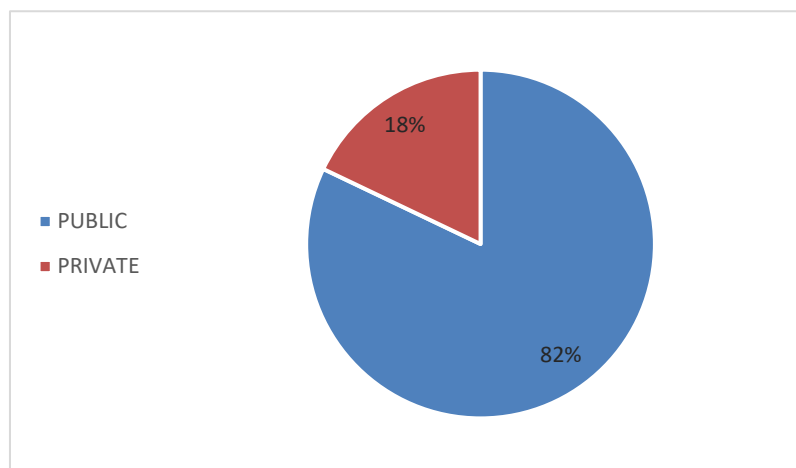
For the Catalan case (11 id), institutional competences are also organized at hierarchical level.

Finally, Portugal (12 id) and Greece (10 id), institutions are organized by their competences.

Profile and territorial scope

Most of the institutions identified correspond to public ones (55 of 67; 82%, see Graphic 1), within the region or sub-region territorial level (56 of 67; 83%).

Graphic 1. Percentage of public and private institutions identified

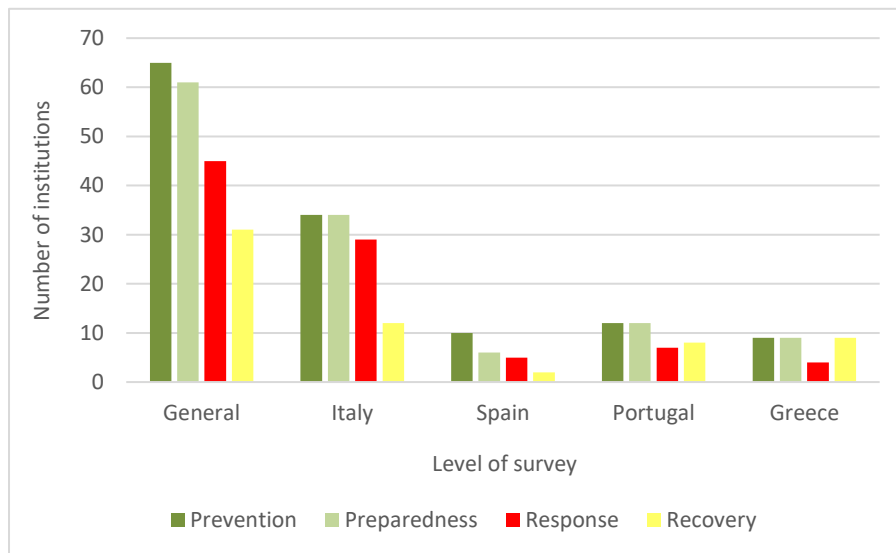


In the case of Portugal, some institutions are identified at national level, but with territorial deployment at regional or sub-regional level. Some specificities exist for private institutions (see chapter 3.2.3).

Competences within DRM cycle

According the focus of PREVAIL Project (fuel management for fire prevention), most of the institutions identified have competences in Prevention (90%) and Preparedness (92%), more than a half are involved in Response actions (66%) while the competences in Recovery are the less represented (45%). This trend of more institutions in the field of prevention occurs in all countries analysed (Graphic 2).

Graphic 2. Representation of DRM cycle phases in the different levels of survey



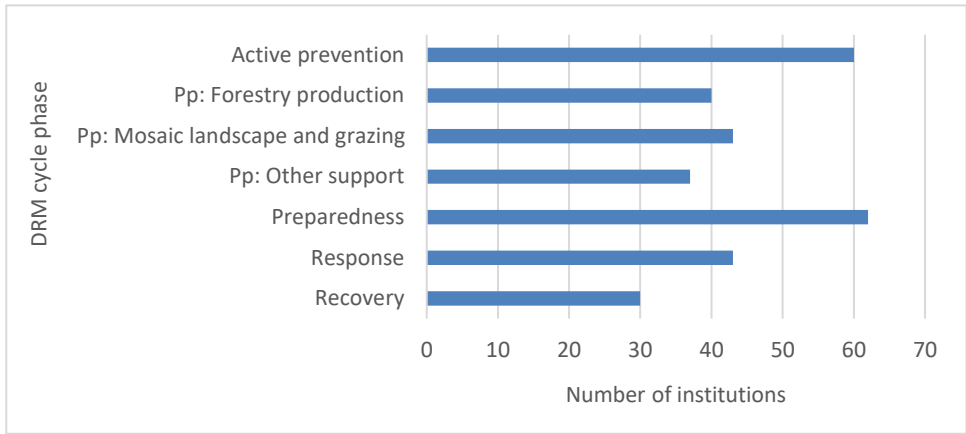
Regarding the definition of the institutions by phases within the DRM cycle phase, all categories are represented, where the Preparedness phase is the most represented (Graphic 3).

It is important to highlight that it is possible to mark more than one category of the cycle phase per institution, since one institution can be involved in more than one phase (e.g. Civil Protection departments normally develop the civil protection and emergency plans, which fits in Preparedness phase, and participate in the emergency management organizing, for instance, the evacuations, confinements, etc. during the Response phase).

Graphic 3 shows the total amount of institutions collected with competences in each phase.

Globally, Prevention phase is 180 times marked along the institutions collected (60 Active prevention, 120 Passive prevention: 40 Forestry production, 43 Maintaining mosaic landscape and grazing, 37 Other societal and structural support to rural development), 62 within Preparedness phase, 43 within Response phase and 30 within Recovery phase.

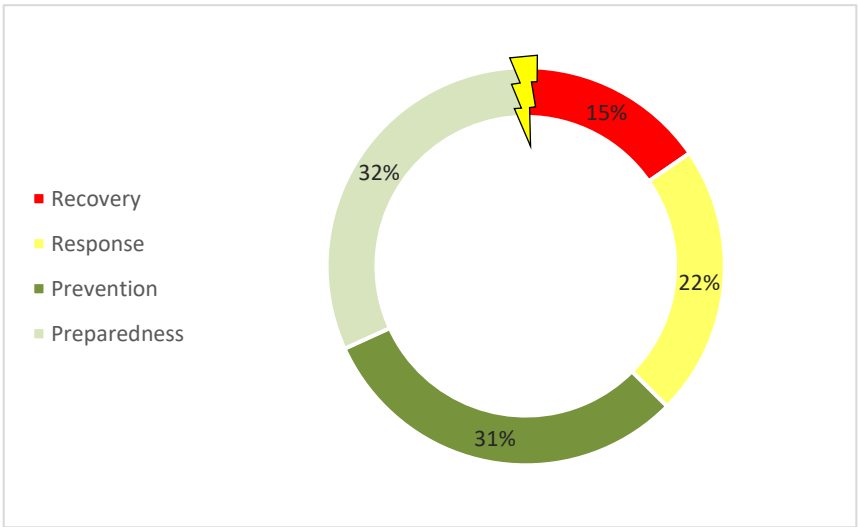
Graphic 3. Number of institutions identified by categories within the DRM cycle



* Pp: Passive prevention

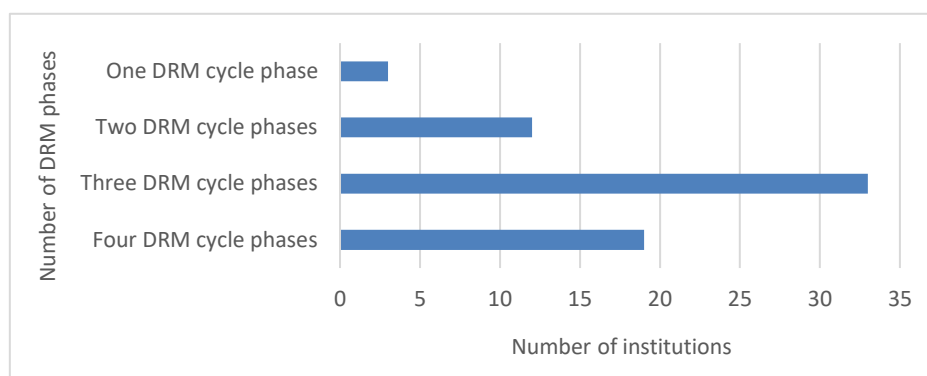
Graphic 4 shows how the most institutions are involved in the two management phases before the hazard (Figure 3), representing the 62% of the total.

Graphic 4. Percentage of DRM cycle phases covered by the selected institutions



The analysis shows that most of institutions are involved in more than one phase. More concretely, only in 3 cases, one DRM cycle is considered. In 12 institutions two phases are involved, 33 institutions works in three DRM phases and, finally, 19 institutions seems to be involved in the four DRM phases (Graphic 5).

Graphic 5. Number of institutions that covers one to four DRM cycle phases



Organization of competences on Prevention, Civil Protection and Fire suppression within Italy, Catalonia (NW Spain), Portugal and Greece

The results show how DRM competences can be developed by different institutions. Although typically, Prevention corresponds to the Forest Service, Preparedness correspond to the Civil Protections Service and Response in terms of extinction is typically developed by the Fire Service, in most cases a same institution can be involved more or less intensively or direct/indirectly, in several risk management phases (Graphic 5). In some cases, they may have a more intensive task over the others. This offers some difficulties towards a pan-European comparison about how wildfire risk management and fuel management programs are organized.

Considering the above mentioned difficulties and aiming at being able to carry out a comparable analysis of the different national/regional situations, a set of indicators (Figure 4) has been developed focusing the attention in the administrative level of the (1) main fuel management programs, the (2) Civil Protection System and, the (3) Fire Service. They show the level of scalability at national/regional/local level.

Figure 4. Scheme of administrative organization of main competences on wildfire management

Indicator	Options
1.- Level of administrative organization of main fuel management programs	<ul style="list-style-type: none"> National Regional (decentralized model) Sub-regional
2.- Level of administrative organization of the Civil Protection System	<ul style="list-style-type: none"> National Regional (decentralized model) Sub-regional
3.- Level of administrative organization of the Fire Service	<ul style="list-style-type: none"> National Regional (decentralized model) Sub-regional

4.- Distribution of administrative competences of main Active and Passive prevention actions at national level	<ul style="list-style-type: none"> In the same Ministry: <ul style="list-style-type: none"> - Same General Directorate - Different General Directorates (#) In an Inter-Ministerial agency In different Ministries
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level	<ul style="list-style-type: none"> In the same Ministry: <ul style="list-style-type: none"> - Same General Directorate - Different General Directorates (#) In an Inter-Ministerial agency In different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level	<ul style="list-style-type: none"> In the same Ministry: <ul style="list-style-type: none"> - Same General Directorate - Different General Directorates (#) In an Inter-Ministerial agency In different Ministries

Then, the main competences distribution in (4) Active and Passive prevention actions, (5) Active prevention and Civil Protection and, (6) Civil Protection and Fire Service are identified. The objective is to show if they are more or less developed from a same body, assuming that, in principle, as more grouped are the competences, more easily synergies and cooperation is developed.

The Table 1 shows how these indicators are organized in Italy, Catalonia (NW Spain), Portugal and Greece. It is possible to identify how each country/region are organized at different administrative levels for the indicators. A combination of regional/national schemes is found. The fuel management programs are much more developed at regional even sub-regional levels, meanwhile the national approach is more present for the Civil Protection and the Fire Service, except in Italy and Spain, where a decentralized model of Autonomous regions exist. This have sense, since fuel management programs normally have to be focused on the territory circumstances and needs. On the other side, protocols, equipment and investments for an effective Preparedness and Response is normally high and managing it at national level have some scalability advantages.

For the case of the distributions of Active and Passive prevention actions, typically are found in the same Ministry (of agriculture and so on) and split in different General Directorates (e.g., DG agriculture for the Passive prevention related to mosaic landscape and grazing, and DG Forest for the Active Prevention + Passive Prevention regarding wood mobilization). This offers some advantages in terms of integrating wildfire prevention into RDP, although this not necessarily works alone and has to be promoted with initiatives involving both DG staffs. The existence of an Inter-Ministerial Agency such as in Portugal, gives clear advantages on that sense. The most unfavorable scenario is when competences are split in different Ministries, as it happens in Greece.

Regarding the Active prevention and Civil Protection actions, in all cases are typically distributed in different Ministries. This fact is quite relevant regarding to wildfire risk and specially when the extension and severity of fires is increasing under a global change context (land use changes is increasing the fuel and proximity of houses to forest land and climate change is favoring the environ towards extreme behavior fires). Consequently, the potential of impact of high intense and fast wildfires on settlements and infrastructures is increasing as well. At this point, fuel management becomes a crucial action to decrease

the impact potential of fires and to enhance the capacity to protect the civilians in case of fire. Therefore, all efforts done promoting a better coordination among the Civil Protection requirements and the planning of the Active prevention measures will provide a more cost-efficient DRM. Once again, the existence of an Inter-Ministerial Agency in the case of Portugal shows a promising model.

Finally, regarding the distribution of the Fire Service and Civil Protection actions, they are typically organized in the same Ministry and, normally, in the same GD. Competences in Portugal are also grouped within the Inter-Ministerial Agency. Only in the case of Italy, fire suppression is situated in a different Ministry. This scheme also happens in other regions and in the central government of Spain, where Fire service is typically situated in the Ministry of agriculture (since fire brigades are coordinated by the Forest service) meanwhile Civil Protection is normally under the Home Affairs Ministry or regional sub-Ministries. In any case, forest fires have specific requirements in terms of skills, equipment and operational requirements different than the urban fires, and these specificities has to be properly developed independently of where fire brigades are situated.

This picture of the partners' countries shows how the countries/regions are organized differently regarding to wildfire management, which gives an idea of the difficulties of harmonizing a common strategy towards an effective integration of fuel management for disaster reduction at EU level.

Table 1. Administrative organization of main competences on wildfire management

Indicator	Italy	Catalonia	Portugal	Greece
1.- Level of administrative organization of main fuel management programs	Regional (decentralized model)	Regional (decentralized model ²)	National and Sub-regional ⁴	Sub-regional
2.- Level of administrative organization of the Civil Protection System	Regional (decentralized model)	Regional (decentralized model ²)	National and Sub-regional - Local ⁵	National
3.- Level of administrative organization of the Fire Service	National ¹ and Regional (decentralized model)	Regional (decentralized model ²)	National and Sub-regional - Local ⁶	National
4.- Distribution of administrative competences of main Active and Passive prevention actions at national level	In the same Ministry (2 Different General Directorates) and in different Ministries	In the same Ministry (3 Different General Directorates) ³	In an Inter-Ministerial agency and in different Ministries	In different Ministries
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level	In different Ministries	In different Ministries ³	In an Inter-Ministerial agency and in different Ministries	In different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level	In different Ministries	In the same Ministry (2 Different General Directorates) ³	In the same Ministry (same General Directorate) and in an Inter-Ministerial agency	In the same Ministry (same General Directorate)

¹ Administrative competences are transferred to the autonomous regions of Friuli Venezia Giulia, Sardinia, Sicily, Valle d'Aosta, e Provincie autonome di Trento e Bolzano.

² Administrative competences are transferred to the Autonomous Communities of Spain

³ Referred to Catalonia

⁴ Most of the fuel management is designed locally, although in just some cases, it is designed at national level.

⁵ It is a hierarchical model, however the municipality Civil Protection has autonomy, unless it surpasses a certain amount of area affected.

⁶ It is a hierarchical model, however the municipality Civil Protection has autonomy, unless it surpasses a certain amount of area affected. Also the Volunteers fire brigades respond to the municipal civil protection and also to the national level.

3.2 Description at national/regional level

This section describes the data collected at national level for Italy, Portugal and Greece and the region of Catalonia as a case study of Spain. The institutional frames of the selected Mediterranean countries are described according the institutions selected.

3.2.1 Italy

34 institutions have been identified related to fuel management programs and the wildfire risk management (see Annex 2). All of them are public bodies, both at regional or sub-regional level (Table 2). 13 institutions are related to the official Forestry departments or services, 8 of them correspond to the Civil Protection, 7 institutions are linked with municipalities associations and, finally, there are 6 more mixing different profiles including natural protected areas.

Table 2. Institutional framework of fuel and wildfire risk management in Italy

Institution	Type of	Territory	Type of
Forest Department	Public	Piedmont	Regional
		Lombardy	Regional
		Tuscany	Regional
		Campania	Regional
		Sardinia	Autonomous Region
Forest and Fauna Department	Public	Trento	Autonomous Province
Department for Agriculture, Tourism, Education and Employment	Public	Liguria	Regional
Forest and Mountain Economy Department	Public	Umbria	Regional
Forest Service	Public	Valle d'Aosta	Autonomous Region
		Bolzano	Province
		Friuli Venezia Giulia	Autonomous Region
		Sicily	Autonomous Region
		Sardinia	Autonomous Region
Civil Protection Sector	Public	Piedmont	Regional
		Lombardy	Regional
		Emilia-Romagna	Regional
		Marche	Regional
		Puglia	Regional
		Basilicata	Regional
		Calabria	Regional
		Lazio	Regional
Mountain Union	Public	Valle Susa	Sub-regional
		Vale di Merse	Sub-regional
		Alta Val di Cecina	Sub-regional
Union of Municipalities	Public	Pratomagno	Sub-regional
		Valdarno and Val di Sieve	Sub-regional
Union of Mountain Municipalities	Public	Colline Metallifere	Sub-regional
		Amiata Grossetana	Sub-regional
Forest Consortium	Public	Alta Val di Susa	Sub-regional
Regional Service for Protected Areas, Forest and Economic Development of Mountainous Areas	Public	Emilia-Romagna	Regional

Regional Phytosanitary Service	Public	Molise	Regional
Calabria Verde Company	Public	Calabria	Regional
Natural Reserve	Public	Cratere degli Astroni	Sub-regional
National Park	Public	Cilento, Vallo di Diano e Alburni	Sub-regional

General review

The selection of institutions shows that competences on wildfire risk management are modulated at different territorial levels (national, regional, province and municipality levels, including national parks and reserves), types of institutions (regional governments, association of municipalities) and administrative units (wildfire prevention and forest management, civil protection, firefighting, protected areas management, etc.).

Since wildfire prevention and risk management competences are transferred at the regional administrative level, there is no a unique/national model regarding to fuel and wildfire risk management and different organizational structure may happen in each region.

In the most regional governments analysed, fuel management is allocated in Forest services and departments, which normally are in charge of the corresponding regional Wildfire Risk Management Plan in collaboration with the Regional Civil Protection Department. These forestry competences some times are shared with agriculture, economy or nature protection into the same department (i.e., Liguria, Emilia-Romagna regions), and they include firefighting actions in coordination with the Civil Protection service/department and the Fire Department. In some regions (i.e., Piedmont, Lombardy regions), the corresponding Civil Protection service/department is described. They are normally in charge of the training of volunteers and program activities related to forest fires, implementing also the actions planned by the regional Wildfire Risk Management Plan. In other cases, the Civil Protection appears as a transversal body not allocated in a single department.

In parallel, the Municipality Unions (association of municipalities model, 8 cases) host different municipality competences regarding wildfire risk management, including the civil protection, in coordination with the regional services.

The case of one public company is mentioned, and two protected areas with competences in fire prevention as well.

Organization of competences on Prevention, Civil Protection and Fire suppression in Italy

Considering the above, Table 3 summarizes how the main wildfire management competences are distributed in Italy.

The administrative level of indicators 1, 2 and 3, they follow a decentralized model, except by the case of the Fire Service, which is organized at National level, transferring the competences to some autonomous territories.

The organization of Civil Protection and Active prevention (5) and the Civil Protection and Fire Service (6), both are organized in different Ministries. The case of the Active and Passive prevention actions is different since they are in the same Ministry, but in different General Directorates.

Table 3. Administrative organization of main competences on wildfire management in Italy

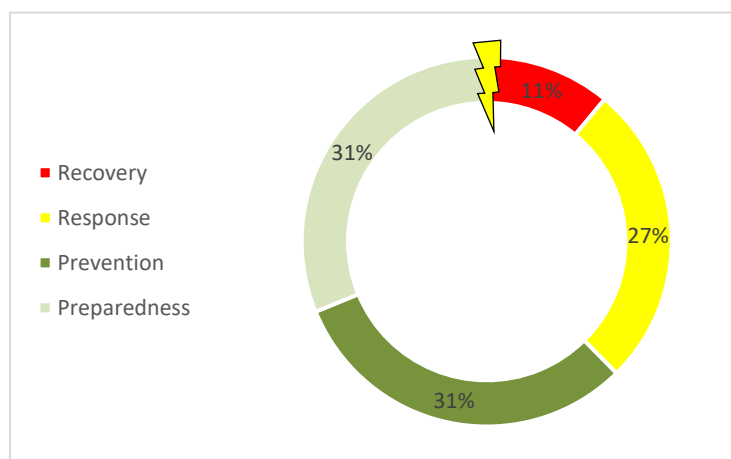
Indicator	Organization
1.- Level of administrative organization of main fuel management programs	Regional (decentralized model)
2.- Level of administrative organization of the Civil Protection System	Regional (decentralized model)
3.- Level of administrative organization of the Fire Service	National ¹ and Regional (decentralized model)
4.- Distribution of administrative competences of main Active and Passive prevention actions at national level	In the same Ministry (2 Different General Directorates) and in different Ministries
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level	In different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level	In different Ministries

¹ Administrative competences are transferred to the autonomous regions of Friuli Venezia Giulia, Sardinia, Sicily, Valle d'Aosta, e Provincie autonome di Trento e Bolzano.

Distribution of Disaster Risk Management actions

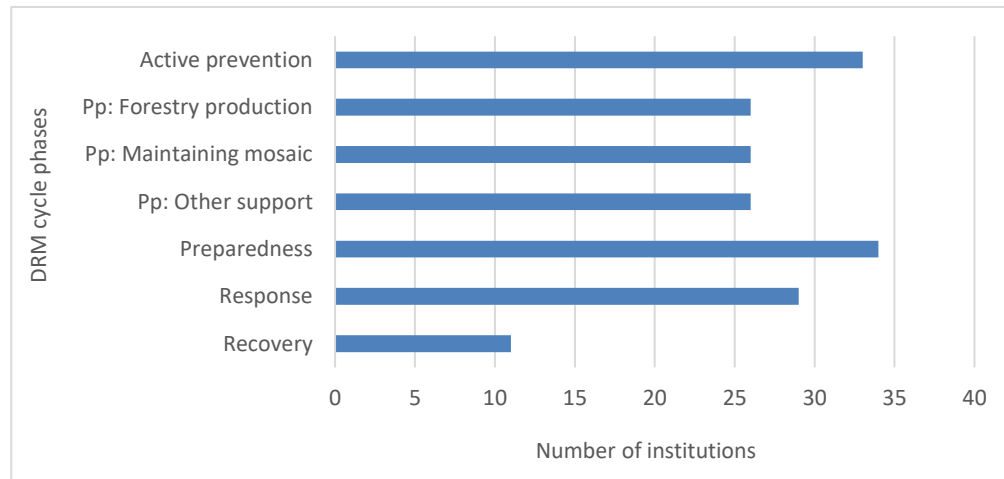
According Graphic 6, the selected institutions cover all the DRM cycle phases, highlighting Preparedness and Prevention ones, which represent the 62% of the total.

Graphic 6. Percentage of DRM cycle phases covered by the selected institutions in Italy



The Graphic 7 shows which phases of the DRM cycle are more represented by the institutions identified. Active prevention, Preparedness and Response are above average, while Recovery is less represented. In parallel, the three phases included in the Passive prevention have the same representation, and they also are above average.

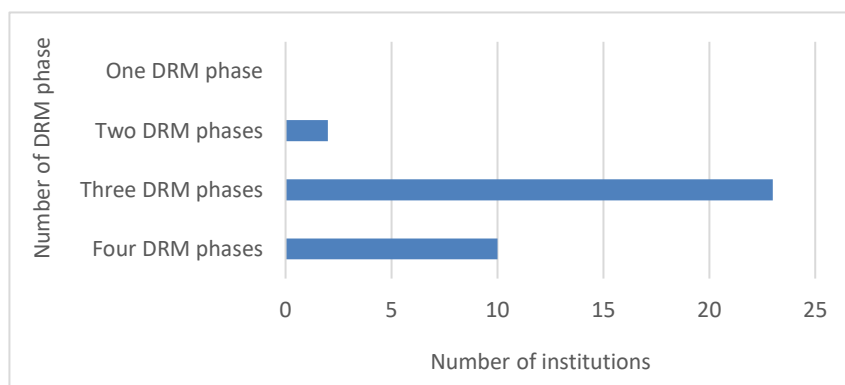
Graphic 7. Number of institutions identified by categories within the DRM cycle in Italy



* Pp: Passive prevention

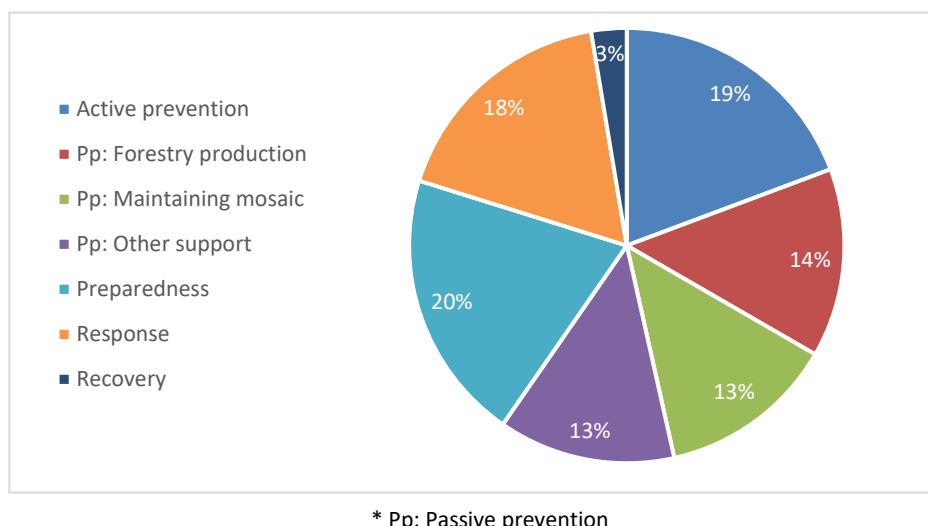
The Graphic 8 shows how much DRM phases are covered by the institutions identified.

Graphic 8. Number of institutions that covers one to four DRM cycle phases in Italy



In the case of Italy there is no institution covering only one DRM cycle phase (Graphic 8). The two institutions that covers two DRM phases (Prevention and Preparedness) correspond to one Forest Service and one Forest Department. 23 of 34 institutions cover three different DRM phases, including in all cases the Active prevention (except one) and Preparedness, (39% of the total). Therefore, 2/3 parts of the institutions identified approximately cover the two phases before the hazard, basically the Civil Protection Sectors and the Forest Services and Public Departments. The Recovery and Passive prevention phases are less represented. Graphic 9 shows how are they distributed.

Graphic 9. Institutions covering three DRM phases in Italy: how are they distributed?



In parallel, there are a total of 10 institutions that cover all phases of the DRM cycle (Graphic 8). According to the collected information (Annex 2), these institutions are basically the Union of Municipalities or Mountain Unions.

The institutional competences in wildfire risk management in Italy are assigned to Regional or sub-regional public bodies in the domain of the forest and agriculture services, civil protection or protected areas. Regional Institutions are in charge of the three main phases of DRM (Prevention, Preparedness and Response), while sub-regional ones are responsible, in some cases, also for post-fire restoration activities.

3.2.2 Catalonia (NW Spain)

In case of Spain, most of competences in wildfire risk management are transferred to the Autonomous regions and, therefore, they can be different organized between them. For this reason, it was selected the region of Catalonia (NW Spain), where the national partner takes part, and one of the regions where wildfire risk management policies are more developed (in some cases being a model for other regions of Spain).

In the case of Catalonia, there are 11 institutions identified (Annex 3). They are described at hierarchical level, considering one template for the most general body (up to level of General Directorate), and identifying the corresponding sub-units involved. The Table 4 sum up the information collected, defining if it is private or public, the territorial scope and the institution.

All institutions are public bodies except the foundation and the associations. At territorial level, most of the institutions dealing with fuel management and wildfire risk works at regional level. In some cases, they are coordinated and/or complemented by fuel management programs at Province and municipality level. The international foundation, nevertheless, implement different actions at regional level (as the “Fire flocks” initiative, see Annex 6). The Forest Defence Associations are normally organised at municipality level. It has been also mentioned the general directorate of the Ministry of the state who is in charge of the coordination of wildfire prevention with all the Autonomous Communities.

Table 4. Institutional framework of fuel and wildfire risk management in Catalonia

Institution	Type of	Territory	Type of
General Directorate of Forest Ecosystems and Environment Management *	Public	Catalonia	Regional
Forest Ownership Centre *	Public	Catalonia	Regional
General Directorate of <i>Forest Rangers</i> *	Public	Catalonia	Regional
General Directorate of Rural Development *	Public	Catalonia	Regional
General Directorate of Agriculture and Livestock *	Public	Catalonia	Regional
General Directorate of Civil Protection **	Public	Catalonia	Regional
General Directorate of Fire Prevention, Extinction and Rescue **	Public	Catalonia	Regional
General Directorate of Rural Development and Forest Policy	Public	Spain	National
Province Authorities and Municipalities	Public	Province of Barcelona, Tarragona, Lleida and Girona. Municipalities	Province/Local
Forest Defence Associations	Private	Catalonia	Sub-regional
Pau Costa Foundation	Private	International	International

* Regional Ministry of Agriculture

** Regional Ministry of Home Affairs

General review

The analysis show that the competences related to Active prevention, Preparedness, Response and Recovery are mostly well defined among institutions.

At regional level, Active prevention fits into the General Directorate (GD) of Forest Ecosystems and Environment Management (GDFEEM) which is also in charge of the Passive prevention regards to forests management and wood mobilization, and the Recovery of burnt areas. A particularity about the implementation of forest fuel management actions linked with RDP funds is that they are distributed between the GDFEEM and the Forest Ownership Centre (CPF, from the Catalan name). The first invest in the own public forest and manage some subsidies to forest owners and Municipalities for fire prevention. The CPF manage forest subsidies in private properties where a Forest management plan exist. On the other hand, small program of prescribed burning to control pasture growth in mountain areas is undertake by the Wildfire Prevention Service in the same GDFEEM. Additionally, controlling task linked to Active prevention and the register of burnt areas is complemented with the GD of Forest Rangers (they also support with a small team prescribed burns according the Wildfire Prevention Service instructions).

Other RDP measures linked with Passive prevention regard to livestock and agricultural activities are within two general directorates, GD of Rural Development and DG of Agriculture and Livestock (DGAL). It is important to mention that grazing management in forest land is, therefore, distributed among DGAL (who

is “in charge of the animals”) and the DGFEEM (who is in charge of the forest land management). This is a particularity that can influence the efficiency in managing and coordinating funds to promote silvo-pasture land management for wildfire prevention. A positive aspect is that all the GD mentioned (including the CPF as a public company) are under the regional Ministry of Agriculture.

Preparedness correspond fundamentally to the GD of Civil Protection, which also participates in case of emergency in collaboration with the Fire service, overall in the case of wildland urban interface fires. GD of Prevention, Wildfire Extinction and Rescue includes the Fire service and are mainly in charge of the Response phase. Therefore, a particularity in the case of Catalonia is that the fire suppression and the civil protection are organized in two different GD. They are in the same regional Ministry of Home Affairs. Moreover, within the Fire Service, a specific group of wildfire analysis is included (UT-GRAF), which offer guidelines and define strategic areas for fuel management in the territory that will be used as an infrastructure to support extinction tasks in the case of wildfire. In that sense, a strong coordination with the DGFEEM and the CPF exist, being those areas integrated in the prevention plans.

At sub-regional scale, each province has a government body and in some cases strong programs supporting wildfire prevention plans and fuel management actions to the municipalities are implemented (especially regarding to the law of cleaning the vegetation around settlements in contact with forest lands). In addition, some municipalities are able to mobilize own resources, and to participate in the call managed by the DGFEEM.

At private level, the case of a Foundation promoting networking, knowledge sharing and fuel management actions is mentioned. The private associations of forest owners and volunteers normally are organized at municipality level and participates in the Prevention and, under the coordination of the Fire Service in the suppression stage. This is an interesting model and particular for the case of Catalonia allowing the involvement of the local population in the wildfire prevention and with a high implementation along all the territory (both at forest-rural and forest-urban areas as well).

Finally, the role of the General Directorate of Rural Development and Forest Policy of the central government is mentioned. Since competences on wildfire prevention and extinction are decentralized, basically they coordinate the policies and guidelines all around the State, and manage some suppression resources (aircrafts and specific crews) that can be mobilized to support the extinction capacity of the regions.

Organization of competences on Prevention, Civil Protection and Fire suppression in Catalonia (SW Spain)

Considering the above, Table 5 summarize how are organized the main wildfire management competences in Catalonia.

The administrative level of indicators 1, 2 and 3, follow a decentralized model, since the competences are transferred to the regional government.

The organization of Active and Passive prevention actions, are distributed in the same Ministry, but in different General Directorates, as the case of the Civil Protection and Fire Service. The case of the Active prevention and Civil Protection actions, they are organized in different Ministries.

Table 5. Administrative organization of main competences on wildfire management in Catalonia

Indicator	Organization
1.- Level of administrative organization of main fuel management programs	Regional (decentralized model ¹)
2.- Level of administrative organization of the Civil Protection System	Regional (decentralized model ¹)
3.- Level of administrative organization of the Fire Service	Regional (decentralized model ¹)
4.- Distribution of administrative competences of main Active and Passive prevention actions at national level ²	In the same Ministry (3 Different General Directorates)
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level ²	In different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level ²	In the same Ministry (2 Different General Directorates)

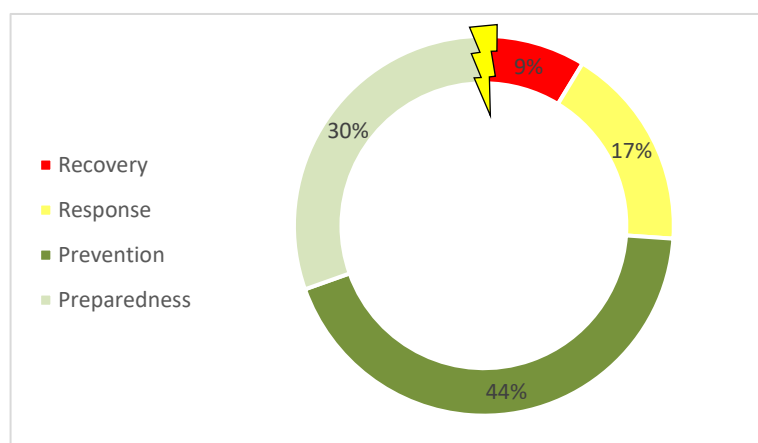
¹ Administrative competences are transferred to the Autonomous Communities of Spain

² Referred to Catalonia

Distribution of Disaster Risk Management actions

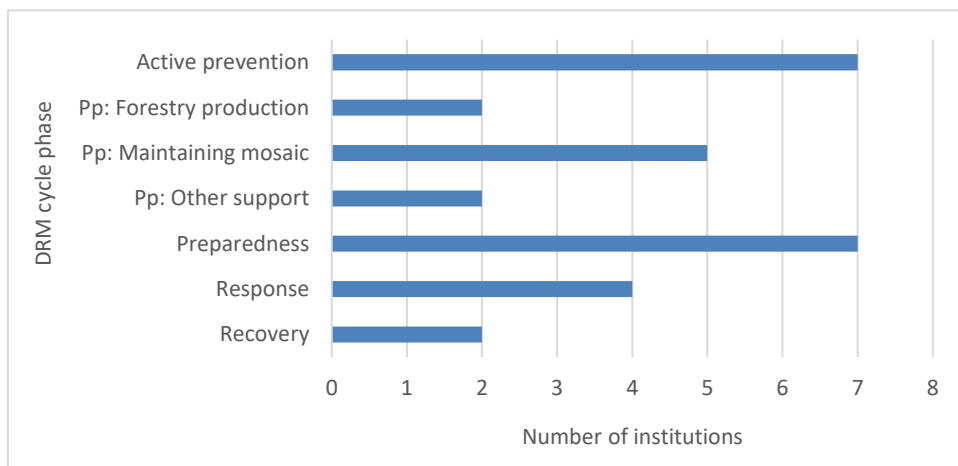
Regarding the phases of the DRM cycle, Graphic 10 shows how Prevention and Preparedness are the most phases represented (74% of the total).

Graphic 10. Percentage of DRM cycle phases covered by the selected institutions in Catalonia



Regard to the sub-categories of DRM cycle, Graphic 11 shows how Active prevention and Preparedness are the most represented followed by Passive prevention: Maintaining mosaic landscape and grazing.

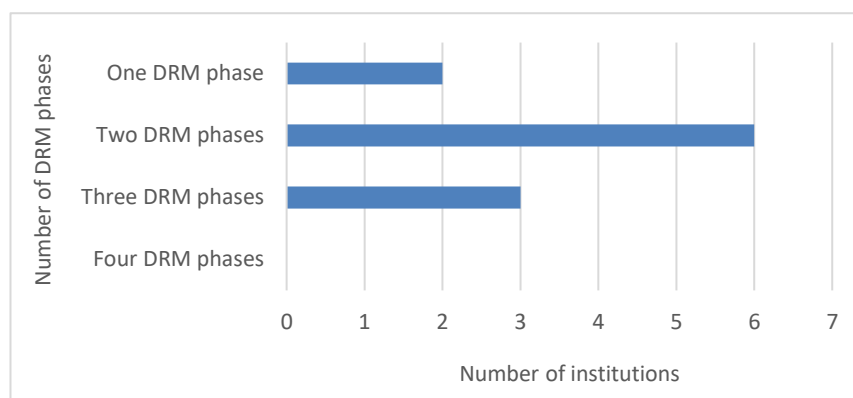
Graphic 11. Number of institutions identified by categories within the DRM cycle in Catalonia



* Pp: Passive prevention

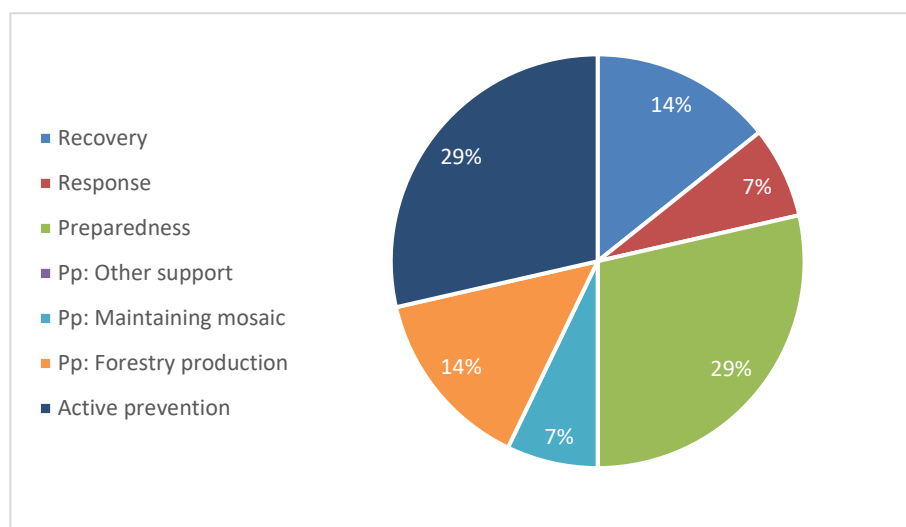
The Graphic 12 shows how many phases are covered by the selected institutions. Most of them (6 institutions) cover two phases, while the 2 remaining institutions cover one phase and three covers three of them.

Graphic 12. Number of institutions that covers one to four DRM cycle phase in Catalonia



Graphic 13 shows which (and how) DRM categories cover the institutions more represented in Graphic 12 (those that cover two of them).

Graphic 13. Institutions that cover two DRM phases in Catalonia: how are they distributed?



* Pp: Passive prevention

The phases most represented are Active prevention and Preparedness, in both cases 4 of 6 institutions marked them (58% of represented phases) by the institutions with two DRM phases. The other most represented is the Passive prevention of Forestry production and Recovery, with a total of 28%. Finally, Passive prevention of Maintaining mosaic landscape and grazing and Response are the less represented, and Passive prevention of Other societal and structural support to rural development has zero representation.

Therefore, these Catalan institutions identified that covers most DRM phases, they are basically aimed at promoting actions directly related with fire prevention and with the preparation of exposed population and services, the two DRM phases before the hazard.

The two institutions with competences in a unique phase of the DRM cycle, in both cases they are aimed at promoting actions of Passive prevention (actions related with the crop lands and mosaic landscape maintenance, and farming and grazing activities, or actions of support to rural development). These institutions are directly related to the rural development.

The three institutions involved in three phases includes Active prevention, Preparedness and Response.

The institutional framework has considered the Provinces (4 in Catalonia) and Municipalities. They have been included since normally they promote at province or municipality levels, forest protection and wildfire prevention programs (supporting fire breaks in wildland urban interface, for instance). However, the level of actions and budget is very different among them.

The private foundation has been identified for the relevant role in connecting science to policy and its involvement in the identified initiatives towards resilient landscapes.

3.2.3 Portugal

12 institutions have been identified (Annex 4). 4 of them are public, 5 are private and 3 are private-public (although this category is not pre-identified on the templates, they are institutions with public-private financing).

Regards the territorial level, 5 of 12 institutions are regional, and the other 7 work at national level (some of them are also deployed at regional scale, within a hierarchical scheme) (Table 6).

Table 6. Institutional framework of fuel and wildfire risk management in Portugal

Institution	Type of	Territory	Type of
Nature and Forest Conservation Institute – Forest Services	Public	Portugal	National and Regional
Agency for Integrated Management of Rural Fires	Public	Portugal	National
National Emergency and Civil Protection Authority	Public	Portugal	National and Regional
Electricity of Portugal	Concerted	Portugal	National and Regional
National Energetic Network	Private	Portugal	National and Regional
Infrastructures of Portugal	Concerted	Portugal	National and Regional
Municipalities	Public	Portugal	Sub-regional
Organization of Forest Producers	Private	Portugal	National and Regional
Communal lands (Baldios)	Concerted	Portugal	Sub-regional
Integrated Management and Forestry Promotion - GIFF	Private	Portugal	Regional
Montis – Conservação da Natureza	Private	Portugal	Regional
Cooperativa Terra Chã	Private	Portugal	Sub-regional

General review

Competences among forest fuel management and Civil Protection are clearly segmented into each one corresponding national agencies (Nature and Forest Conservation Institute (ICNF, for the Portuguese name) and National Emergency and Civil Protection Authority (ANEPC, for the Portuguese name)). In the case of the Civil Protection one, it includes a specific force of firefighters which collaborates on structural prevention. ICNF has competences in all DRM cycle phases, while ANEPC has competences in Prevention, Preparedness and Response. In parallel, an interesting cross-sectoral agency (Agency for Integrated Management of Rural Fires (AGIF, for the Portuguese name)) on forest fires coordinates the implementation of an Integrated Rural Fire Management System, which integrates the tasks of both national bodies previously mentioned. This is a very interesting model which promote an integrated approach in consonance with most of the challenges of wildfire risk managements where a strong coordination and cooperation among DRM cycle components is needed. AGIF also has competences in all DRM cycle phases excluding these categories related to Passive prevention.

The role of three companies in strategic issues as electricity and road networks and how their regulated fuel control is integrated into the Fuel Management Corridor Networks within the fire National Defense System is described, and shows an interesting case of coordination among public/private companies and the system of defense, since they are strategic infrastructures and services.

The role of municipalities regard to the local fire prevention plan is mentioned. They also include volunteer associations of firefighters, and in some cases participate in Passive prevention actions.

Forest ownership is organized in associations and the corresponding federations, and they participate in fuel management actions. In some cases, they include first-intervention actions. A same federation can group private and communal ownerships.

All the institutions which have teams of forest sappers (Municipalities, Forest Producers Organization and Communal lands and Forest Authority) have a specific role on Active prevention, Preparedness, Response and Recovery. The role of forest sappers during half of the year is to prevent and on the other half is to do surveillance, first intervention attack and mop-up activities. After fire season they are the ground task force which in many cases apply the recovery of the burned areas. In that case, all the institutions have competencies in all DRM cycle phases.

The interesting role of a private company, a NGO and a Cooperative, providing wildfire prevention and management services, including prescribed burnings, or community involvement is introduced.

Organization of competences on Prevention, Civil Protection and Fire suppression in Portugal

Considering the above, Table 7 summarizes how the main wildfire management competences are distributed in Portugal.

The administrative level of indicators 1, 2 and 3 are different since the main fuel management programs are not organized at local level.

Regarding the distribution of competences, in all cases exists an Inter-Ministerial Agency, but for Active and Passive prevention actions (4) and Civil Protection and Active prevention, they are organized also in different Ministries, while the Civil Protection and Fire Service (6) are in the same General Directorate.

Table 7. Administrative organization of main competences on wildfire management in Portugal

Indicator	Organization
1.- Level of administrative organization of main fuel management programs	National and Sub-regional ¹
2.- Level of administrative organization of the Civil Protection System	National and Sub-regional - Local ²
3.- Level of administrative organization of the Fire Service	National and Sub-regional - Local ³
4.- Distribution of administrative competences of main Active and Passive prevention actions at national level	In an Inter-Ministerial agency and in different Ministries
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level	In an Inter-Ministerial agency and in different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level	In the same Ministry (same General Directorate) and in an Inter-Ministerial agency

¹ Most of the fuel management is designed locally, although in just some cases, it is designed at national level.

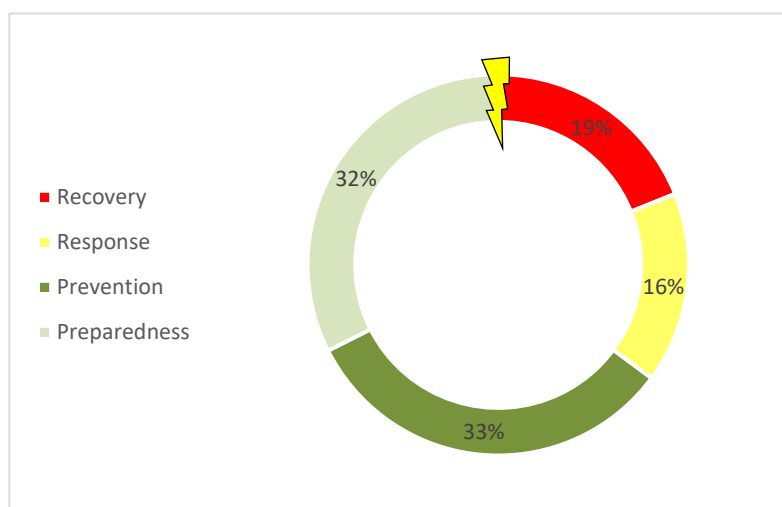
² It is a hierarchical model, however the municipality Civil Protection has autonomy, unless it surpasses a certain amount of area affected.

³ It is a hierarchical model, however the municipality Civil Protection has autonomy, unless it surpasses a certain amount of area affected. Also the Volunteers fire brigades respond to the municipal civil protection and also to the national level.

Distribution of Disaster Risk Management actions

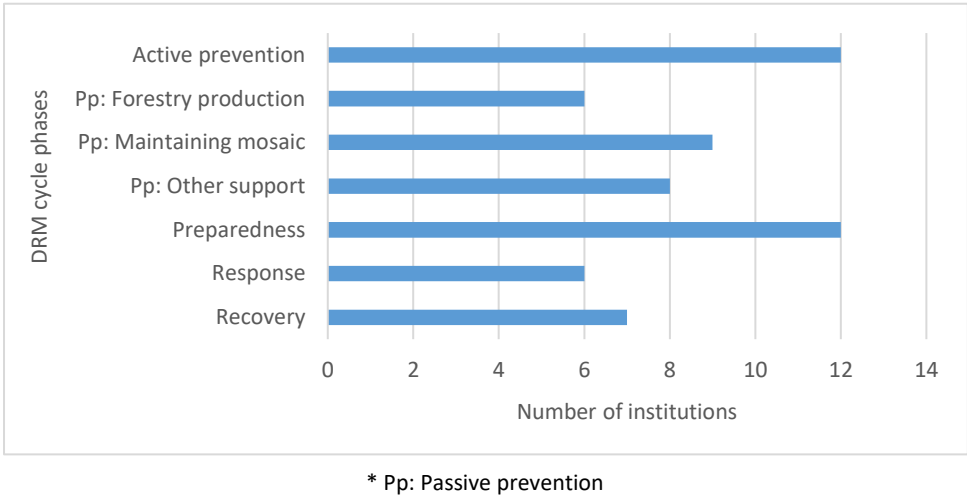
Graphic 14 shows how these institutions cover the different phases of DRM cycle, highlighting the Prevention and Preparedness as happen in other cases, as the most represented.

Graphic 14. Percentage of DRM cycle phases covered by the selected institutions in Portugal



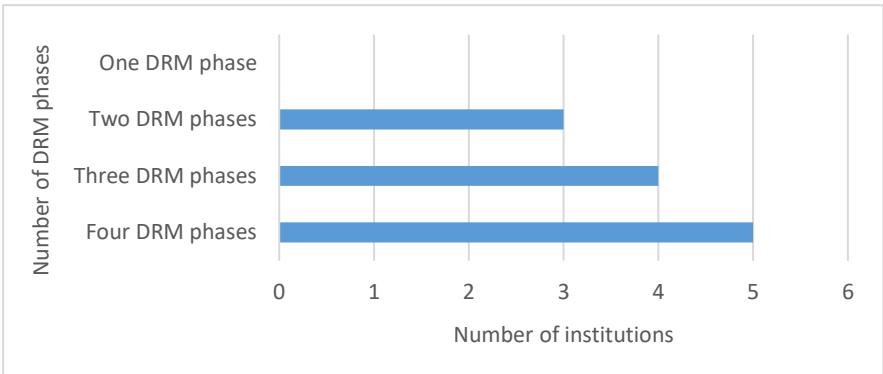
Analyzing each category in detail, Active prevention and Preparedness are the most represented, similar to other cases, followed by Passive prevention related to the Maintenance of mosaic landscape and Other societal and structural support to rural development and the Recovery. Response and Passive prevention related to Forestry production are the less represented (Graphic 15).

Graphic 15. Number of institutions identified by categories within the DRM cycle in Portugal



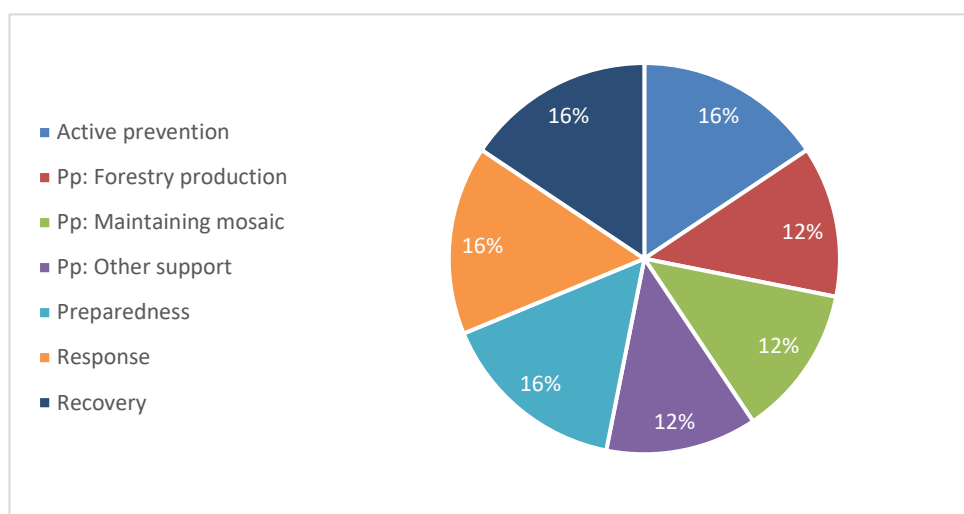
In the case of Portugal, Graphic 16 shows how 5 of 12 institutions identified have competences within the whole phases of the DRM cycle, while the others includes three DRM cycle phases (4 institutions) and two phases (3 institutions). No institution covers only one phase of the DRM cycle.

Graphic 16. Number of institutions that covers one to four DRM cycle phase in Portugal



Graphic 17 shows how are the different categories of the DRM cycle phases represented within the institutions that covers the whole cycle, with a similar proportion considering the different kinds of Passive prevention.

Graphic 17. Institutions that cover more DRM phases in Portugal: how are they distributed?



* Pp: Passive prevention

3.2.5 Greece

A total of 10 institutions are identified in the case of Greece (Annex 5), 8 are public bodies and 2 are private, three of them with a national scope, and the others with a regional or sub-regional competence (Table 8).

Table 8. Institutional framework of fuel and wildfire risk management in Greece

Institution	Type of	Territory	Type of
General Directorate of Forest and Forest Environment	Public	Greece	National
General Directorate of Forest and Rural Affairs	Public	Crete	Regional
General Secretariat for Civil Protection	Public	Greece	National
Forest Directorate of Eastern Attiki, Local Forest Service of Lavrio	Public	Attica	Regional
Municipality of Rafina - Pikermi	Public	Attica	Sub-regional
Chios Voluntary Action Team - Omikron	Private	Chios	Regional
ΔΕΔΔΗΕ S.A., ΑΔΜΗΕ S.A., ΟΣΕ S.A. and ΔΕΣΦΑ (Electricity, Railway and Gas companies)	Private	Greece	National
Decentralized Administrations (DA)	Public	Different regions	Regional
Directorate of Reforestation (DA)	Public	Attica	Regional
Directorate of Forest of Dodecanese (DA Authority of Aegean)	Public	Rhodes	Regional

General review

Greece is divided into 13 Regions, 54 prefectures and 1.053 municipalities. In parallel to the Regions, Greece is divided in 7 Decentralized Administrations. They were created in January 2011 as part of a reform of the country's administrative structure, the Kallikratis reform (Law 3852/2010). Each Decentralized Administration is led by a "Coordinator" who is appointed or dismissed by a Cabinet decision upon request of the Greek Ministry of Home Affairs, and is therefore considered the senior representative of the national government in the regions. The Decentralized Administrations are in charge of those state agencies that manage public property and which, as such, cannot be managed by elected officials under the Greek Constitution.

The Decentralized Administrations are administrative units with activities particularly in state audit and executive tasks within the area of their responsibilities. The 7 Decentralized Administrations of the Greek state are: (1) Attica, (2) Macedonia-Thrace, (3) Epirus-Western Macedonia, (4) Thessalia-Central Greece, (5) Peloponnese-Western Greece & Ionian islands, (6) Aegean (blue area), and (7) Crete.

The Forest Service for many decades belonged to the Ministry of Agriculture (currently Ministry of Rural Development and Food). It currently belongs to two Ministries:

- The head of the Forest Service is the General Directorate of Forests and Forest Environment that belongs to the Ministry of Environment and Energy, and
- The local Forest Service Offices belong to the 7 Decentralized Administrations which in turn are supervised by the Ministry of Interior.

In all cases, Prevention, Preparedness, Response and Recovery competences through the selected institutions are well defined.

Regards to Active and Passive prevention, competences about fuel management and wildfire prevention of the national General Directorate of Forests and two decentralized ones, are described. The General Directorate has the responsibility for the issuance of instruction and technical specifications for projects regards to the protection of forest and the risk of fires.

They are basically focused on the Prevention stage, under the main goal of forest management and conservation, managing funds from national resources and the RDP as well. Also the competences of General Secretariat of Civil Protection regard to the Response phase are described.

The Decentralized Administrations (DA) have administrative and financial autonomy in forestry (among others). Their organization chart includes a General Directorate of Forest and Rural Affairs with local Forest Service Offices, that are focused on the Prevention, Preparedness and Recovery phases.

In the case of the Directorate of Reforestation (DA), it is involved exclusively in the Recovery phase.

In parallel, the case of a municipality with tasks on wildfire prevention including the controlling of residents' response to cleaning, the mobilization of woody material from pruning and cutting the forest, the execution of preventive vegetation clearance programs in the area of special protection of areas considered to be of high risk is included.

Finally, an active voluntary team that participates in all phases of the DRM cycle and linked to the Civil Protection Voluntary Organizations, and three different private companies (electricity, gas and railway) related to the pruning of trees in forested areas which are crosses by these infrastructures are described.

Organization of competences on Prevention, Civil Protection and Fire suppression in Greece

Considering the above, Table 9 summarizes how the main wildfire management competences are distributed in Greece.

The administrative level of Civil Protection System and Fire Service is at National level, while the main fuel management programs are organised at Su-regional level.

The organization of Active and Passive prevention actions (4) and the Active prevention and Civil Protection (5) are in different Ministries, while the distribution of administrative competences in Civil Protection and Fire Service (6) is in the same Ministry and the same General Directorate.

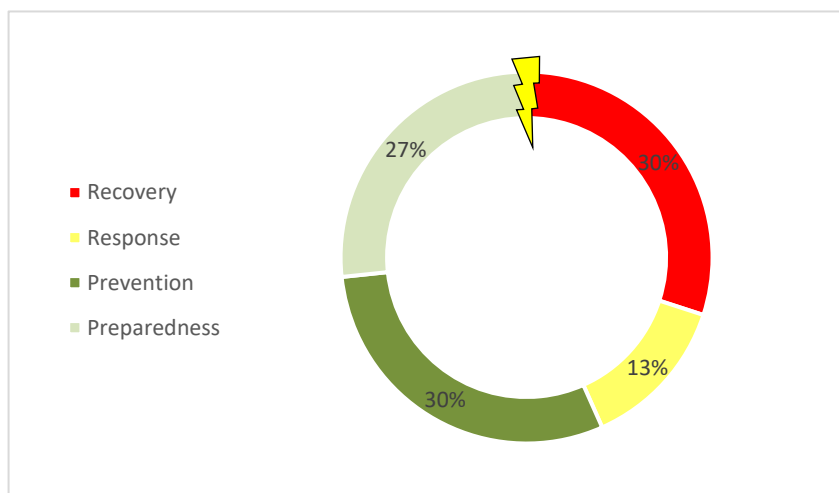
Table 9. Administrative organization of main competences on wildfire management in Greece

Indicator	Organization
1.- Level of administrative organization of main fuel management programs	Sub-regional
2.- Level of administrative organization of the Civil Protection System	National
3.- Level of administrative organization of the Fire Service	National
4.- Distribution of administrative competences of main Active and Passive prevention actions at national level	In different Ministries
5.- Distribution of administrative competences of main Active prevention and Civil Protection actions at national level	In different Ministries
6.- Distribution of administrative competences of main Civil Protection and Fire Services actions at national level	In the same Ministry (same General Directorate)

Distribution of Disaster Risk Management actions

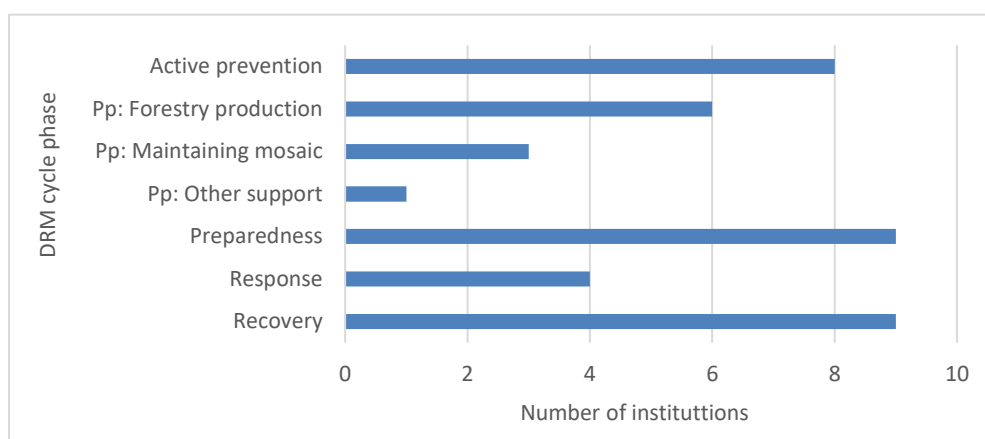
Graphic 18 shows how the institutions are involved in all the DRM cycle phases, highlighting Recovery and Prevention, representing the 60% of total, and Preparedness with the 27% of total of representation.

Graphic 18. Percentage of DRM cycle phases covered by the selected institutions in Greece



Considering all the sub-categories, according Graphic 19, Preparedness and Recovery are the most represented followed by Active prevention. The category Passive prevention: Other societal and structural support to rural development is the less represented.

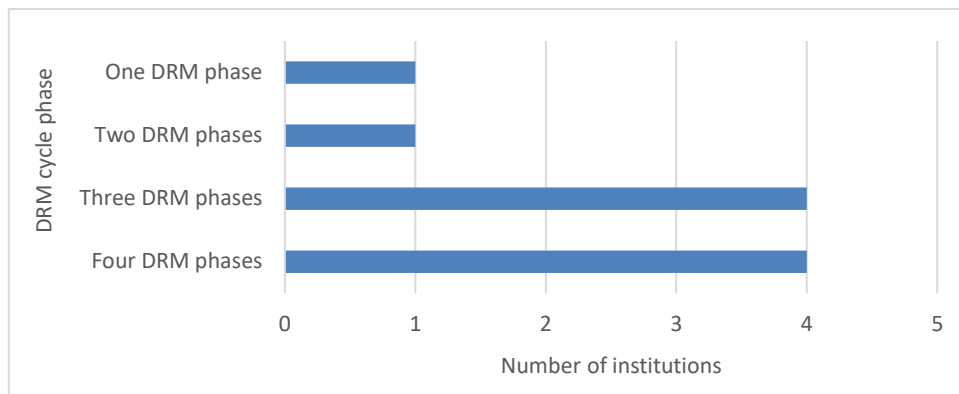
Graphic 19. Number of institutions identified by categories within the DRM cycle in Greece



* Pp: Passive prevention

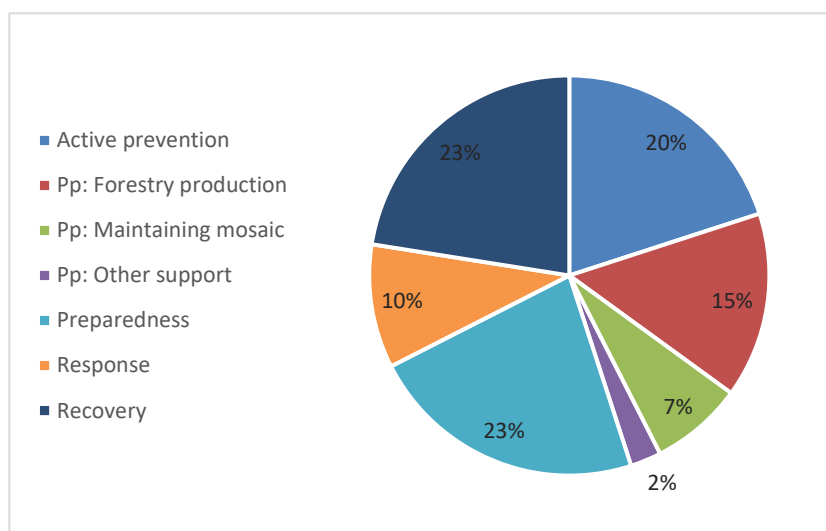
Graphic 20 shows that 4 of the institutions identified (40%) are involved in all DRM cycle phases, while other 4 institutions (40%) cover three phases and 1 cover (10%) two and one phase.

Graphic 20. Number of institutions that covers one to four DRM cycle phase in Greece



Graphic 21 shows how are the different categories of the DRM cycle phases represented within the institutions that covers four DRM phases.

Graphic 21. Institutions that cover four DRM phases: how are they distributed?



* Pp: Passive prevention

In that case, the phase related to Passive prevention: Other societal and structural support to rural development is the less covered. In parallel, there is an equity between Recovery, Preparedness, and Active prevention, representing all them the 66% of the total. The remaining 34% is related to the phases included in Passive prevention, and Response.

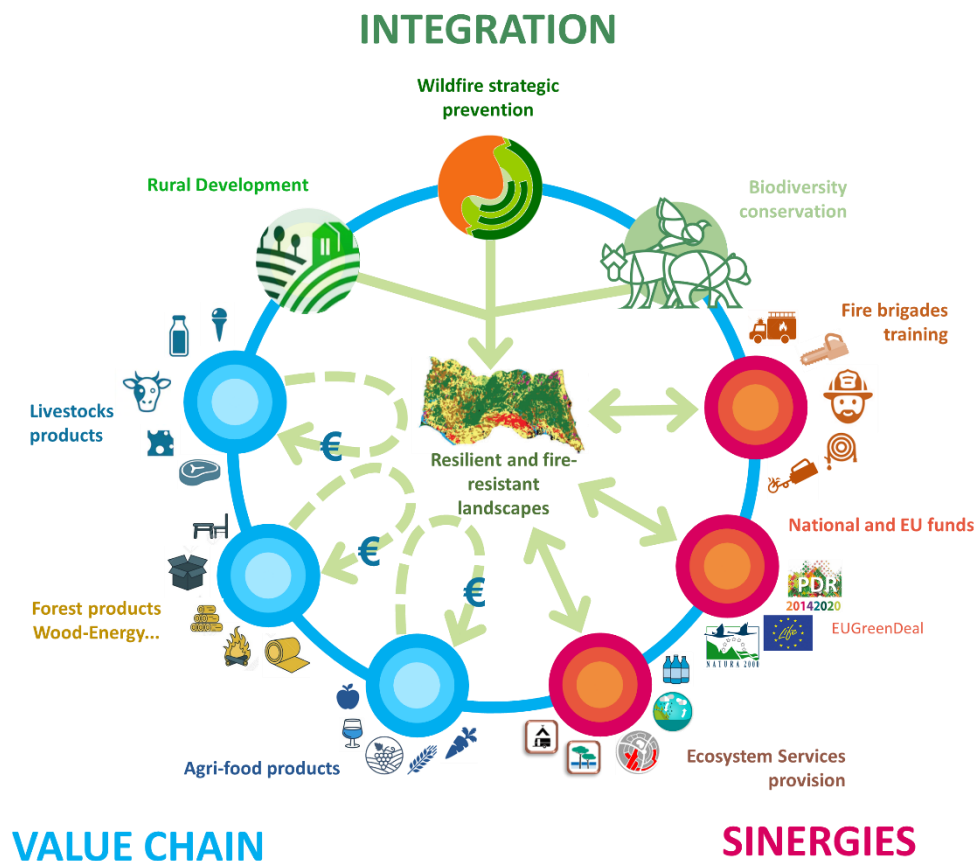
4. Initiatives related to fuel management smart solutions towards fire resilient landscapes

4.1 Defining fuel management smart solution under the PREVAIL Project scope

The initiatives here described are the first attempt of **fuel management smart solutions** identification. Within the PREVAIL scope, fuel management smart solutions are defined as practical measures and initiatives implemented in a **sustainable manner**, enhancing the **cost-efficient ratio**, optimizing the **synergies and cooperation** from a multi-objective perspective, able to capitalize the **best existing knowledge** and being permanently updated under a **lessons learnt** approach (Figure 5).

- The **sustainability** is considered ideally in social (acceptability, support or legal soundness), economic (self-financed or as structural investment) and environmental (as proper as sustainable development frame as possible) terms.
- **Cost-efficiency** means that at some extend, the cost-benefit or cost-efficient criteria of the solution has been introduced or considered in its choose, and ideally is followed-up, helping to show the avoided cost of the prevented fires, both in terms of market price and/or environmental and social services.
- The smart solution seeks to optimize the **synergies** among the different DRM cycle phases and the achievement of different objectives or social demands such as ensuring goods and environmental services provision (landscape beauty, recreation, water provision, wood production, etc.) and the wildfire risk management.
- The smart use of the available resources (normally scare for so many surface and activities under wildfire risk) normally needs a fluent **cooperation** among the different stakeholders and policies (rural development, bioeconomy, climate change mitigation, spatial and urban planning, etc.) involved, public and/or private ones (e.g., wineries promoting the vineyards as fuel breaks, or the tourist sector assuming partially the costs of the activity protection in front of the fire hazard).
- The initiative should be inspired in the **best existing knowledge** based in a consistent policy-science interface where the best and more innovative options are considered. This is perfectly compatible with adapting the empirical knowledge and cultural and traditional management to the current needs.
- The solutions have to be permeable to the **lessons learnt** during their or other similar initiative implementation, integrating not only the achievements but also the fails during their implementation, making them more robust, transferable and, at the same time, sensitive to the local conditions and regional contexts taking advantage from other similar experiences.

Figure 5. Smart solutions PREVAIL approach



4.2 General results

A unique analysis without subchapter at country level of the different initiatives collected is done, since they can have different territorial scopes, and they are not necessarily related to each partner country.

The initiatives here described will be considered within the smart solutions identification to be completed within the *Task 4.2 Fuel management smart solution assessment*. A total of 31 initiatives have been compiled, including different types of practices, from European projects to strategies at municipality level. According the diversity of initiatives, different territorial scopes are represented. 17 initiatives at regional/sub-regional level have been identified, 6 at national level, and 8 at international level. 10 of these 31 initiatives are linked with 9 of the institutions identified (see Table 10).

Table 10. List of the initiatives related to fuel management smart solutions collected

Initiative	Linked institution	Country	Territorial scope
Training Centre of Toscana	No	Italy	Regional/Sub-regional
LIFE Granatha	Municipality Union of Pratomagno	Italy	Regional/Sub-regional
LIFE Elia-Art	National Energetical Network	International	International
Fire fighting training center of the Piemonte Region	No	Italy	Regional/Sub-regional
Grazing program for fire hazard abatement through the “Landa Carsica” business network	No	Italy	Regional/Sub-regional
Biomass production and fire hazard reduction in the Unione Comuni Pratomagno	Municipalities Union of Pratomagno	Italy	Regional/Sub-regional
New Business Models for innovating the cork sector and contrasting cork oak woodland abandonment	No	Italy	National
LIFE Demogest	Forest Ownership Centre	Spain	Regional/Sub-regional
Fire flocks program	Pau Costa Foundation	Spain	Regional/Sub-regional
LIFE Montserrat	Province Authority of Barcelona	Spain	Regional/Sub-regional
Assessment of biomass availability in the municipality of Calonge	No	Spain	Regional/Sub-regional
GEPRIF Project	No	Spain	National
Promobiomasse Project	No	International	International
LIFE Pinassa	Forest Ownership Centre Ministry of Home Affairs and Ministry of Agriculture of Catalonia	Spain	Regional/Sub-regional
Bosc del Vallès (Valles Forest)	No	Spain	Regional/Sub-regional
Alberapastur Project	No	International	International
Quality-Suber	No	Spain	Regional/Sub-regional
Sustainable Forest Management Orientations for Catalonia (ORGEST)	Forest Ownership Centre	Spain	Regional/Sub-regional
Action areas enlargement of large fires prevention plan of Matadepera municipality	Forest Defense Associations	Spain	Regional/Sub-regional
Priority Protection Perimeters (PPP)	Ministry of Agriculture of Catalonia	Spain	Regional/Sub-regional
Cabra serrana nos Baldios da Malcata	No	Portugal	Regional/Sub-regional
Shephers’ School	No	Portugal	National
Open2preserve Project	No	International	International
SILVPAST Operational Group	No	Portugal	National
Forest Management - ACHLI	No	Portugal	National
Reserva Faia Brava	No	Portugal	National
Rebanhos da Serra do Açor-Rabadão	No	Portugal	Regional/Sub-regional
Landscape fire Project	No	International	International
Resilient forest Project	No	International	International
LIFETEC Project	No	International	International
REFOREST Project	No	International	International

General review

In the case of Italy, six initiatives are described: two fire management and firefighting training centres, including the use of prescribed burning for fire hazard reduction and training objectives, a relevant EU Project about wildfire prevention integrated with habitat conservation, and different initiatives linked with forest production.

For Catalonia, there are cases of international projects and regional/sub-regional initiatives, linked with activities directly related to Active and Passive prevention, including from the forestry production as an energetic resource, to the use of grazing as a fire prevention measure. One initiative is also related to fire suppression and restoration of burnt areas.

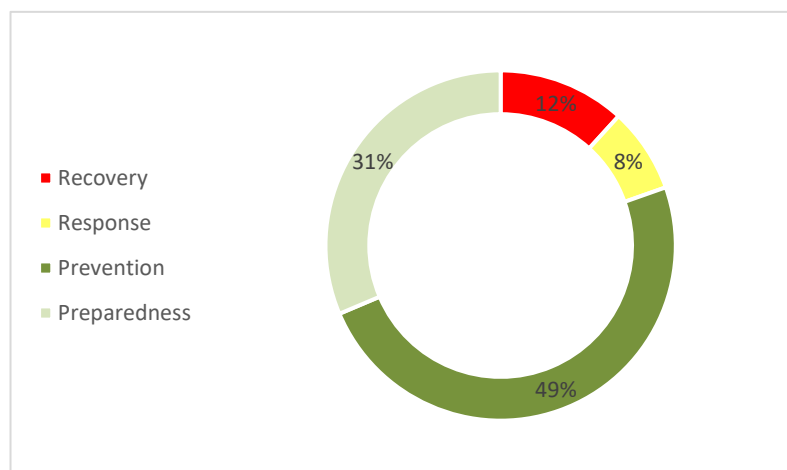
Regards to Portugal, different cases of EU projects and public/private actions regarding fuels management, the use of grazing and silvo-pastoral mosaic as fire prevention (including a shepherds' school) and nature conservation are included.

Distribution of Disaster Risk Management actions

Regarding the phases of DRM cycle, there is a clear majority of initiatives related to the Prevention stage. Graphic 22 show four main phases, while Graphic 23 details the subcategories involved within the selected initiatives.

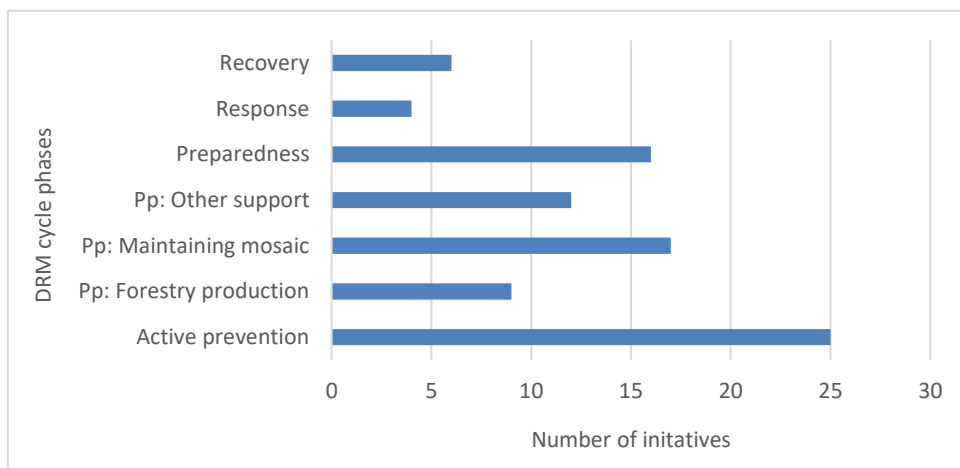
Through the initiatives collected the whole DRM cycle is represented, highlighting the Prevention phase, with a 49% of representation, followed by Preparedness phase, with a total of 31% of representation. Recovery and Response phases are the less represented (20% between both).

Graphic 22. Percentage of DRM cycle phases covered by the initiatives collected



Graphic 23 shows in detail how Prevention is especially represented by Active prevention and Passive prevention: Maintaining mosaic landscape and grazing, followed by Preparedness and the Passive prevention related with Other societal and structural support to rural development.

Graphic 23. Number of initiatives identified by categories within the DRM cycle phases

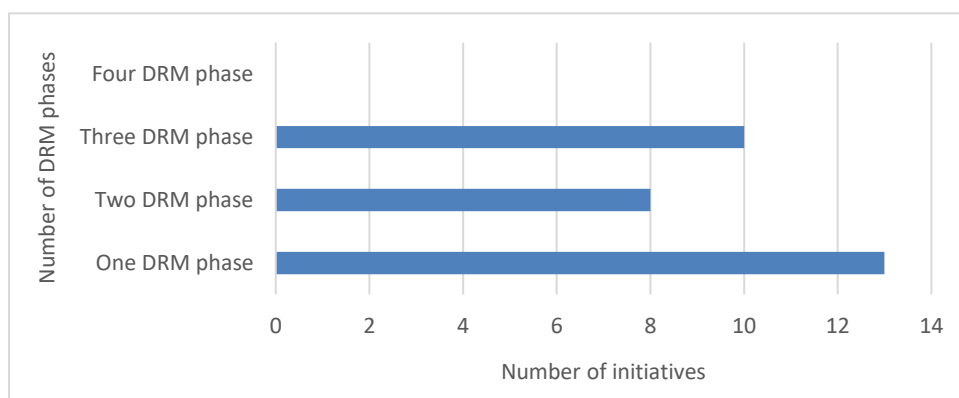


* Pp: Passive prevention

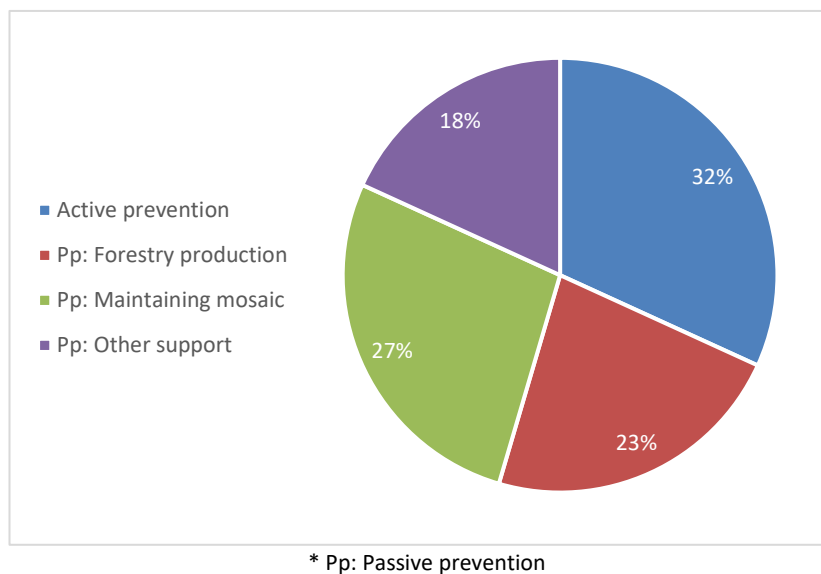
Graphic 24 show how many risk cycle phases are involved within the initiatives. No one initiative collected represent the whole risk cycle, while most initiatives (13 of 31; 42%) include one DRM cycle phase. 8 of them represent two phases, and 10 initiatives represent three DRM phases.

These initiatives that covers only one DRM phase, which class of DRM are? In Graphic 25 the representation of the different subcategories is figured for those initiatives involved in the unique phase of Prevention.

Graphic 24. Number of initiatives that covers one to four DRM cycle phase



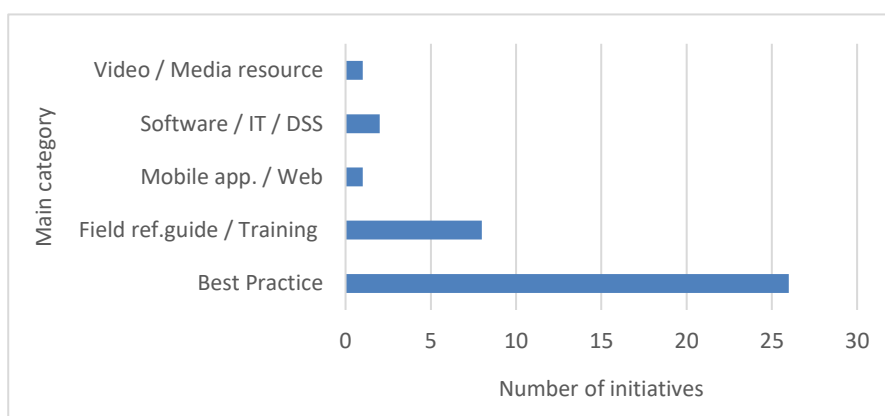
Graphic 25. Initiatives that cover one DRM phase: how are they distributed?



In that case, all categories of Prevention are represented, being the most the Active one, followed by the actions related to the crop lands and mosaic landscape maintenance, and the forest management and forest products mobilisation.

Regarding the categories of the initiatives identified, most of them are classified as Best practices, followed by Field reference guide/training material (Graphic 26). The category Video/media resource has two initiatives linked. Finally, Software/IT/DSS and Mobile application/Web portal have only one case each one.

Graphic 26. Categories of the initiatives



About the available languages of the initiatives, the results are diverse. 11 of 31 initiatives are available only in one language. These ones are normally linked with their sub-regional level of implementation. 8 initiatives are available in two languages, and finally 12 initiatives are available in three or more languages. These last ones are normally linked with European projects or are promoted by international actors.

5. Final remarks

- The analysis of the results of the institutions reported reflect how the organisation of the DRM phases actions is following an own scheme in each country. Also the territorial implementation of the DRM competences is very diverse, normally scaled from the national to the local level, under a centralised or decentralised general model. In any case, regional and municipal levels have an important role in all the cases analysed, and private associations are also present in several cases.
- The analysis of the distribution of competences of the partners' countries shows how the countries/regions are organized differently regarding to wildfire management, increasing the challenges of harmonizing a common strategy towards an effective integration of fuel management for disaster reduction at EU level.
- All across EU and specially in the Mediterranean, the potential impact of high intense and fast wildfires on settlements and infrastructures is increasing. Consequently, fuel management becomes a crucial action to decrease the potential impact of fires, and to enhance the capacity to protect the civilians in case of fire. Therefore, all efforts done promoting a better coordination among the Civil Protection requirements and the planning of the Active prevention measures will provide a more cost-efficient DRM.
- According the focus of PREVAIL Project (fuel management for fire prevention), most of the institutions identified have competences in Prevention and Preparedness, more than a half are involved in Response actions, while the competences in Recovery are the less represented (Graphic 2).
- The above mentioned prevalence of Prevention could be as a consequence that normally it includes a wide range of actions that can be developed at different territorial levels and through different institutions. Response phase, for instance, understood it mainly as fire suppression, is a high specialized task which normally is undertaken by a unique fire service unit. In any case, the bigger number of institutions involved in the Prevention phase of the DRM does not necessarily be reflected in the same proportion in budgetary terms.
- Within the Prevention phase, the specific category of Active prevention has been normally the most represented, as they are normally well identified in the legal frame and expressly mentioned within the competences of the institutions. The Passive prevention is a more transverse concept, where the fire prevention results as and indirect environmental service due to the impact of this activities in the fuel removal, or maintaining the economy, infrastructures and societal development in remote rural areas. Within the Passive prevention categories, the Maintaining mosaic landscape and grazing is the most represented, followed by Forestry production and, finally, Other societal and structural support to rural development.

- The Recovery phase is the less represented one in the selection done in Italy and Catalonia, influenced by a relative humid environ where in most cases the natural recovery of vegetation after a fire is normally ensured. The representation in Portugal and Greece is higher, which can be influenced by the arid conditions or the need of restoring the economic potential, e.g., within plantations in Portugal (Graphic 2).
- Regarding the selected initiatives, in all cases the initiatives involve the Prevention phase without exception. The Active prevention is the most represented, followed by Passive prevention: Maintaining mosaic landscape and grazing. Following the PREVAIL Project main scope, Response becomes the phase placed in last position. This also has sense considering that the competences of wildfire extinction are normally carried out exclusively by the public bodies were public-private collaborations are not developed.
- This preliminary selection of initiatives shows the contribution of several EU projects in providing innovation and transferability among regions under a common challenge. The variety of initiatives also indicates the wide range of solutions related to wildfire risk management, which is consistent with the complexity, cross-sectoral and spatial and temporal extension of the phenomenon.

ANNEXES

Annex 1. DRM cycle categories for RDP measures and institutional competences classification

Classes and sub-classes	Definition and examples	Equivalence
ACTIVE PREVENTION (AP)	Action directly related with fire prevention as: firebreaks, water points, fuel management in strategic points, etc. <i>Example of measure in the 2007-2013 RDP:</i> 226 - Restoring forestry potential and introducing prevention actions	DIRECT MEASURES OF FIRE PREVENTION
PASSIVE PREVENTION (PP)	Actions involving fuel removal, through the maintenance of forestry and agriculture activities on the territory, which indirectly affects fuel loads distribution at landscape level.	INDIRECT MEASURES OF FIRE PREVENTION
Forestry production (PP_Fp)	Actions related with forest management and forest products mobilisation (wood and non-wood forest products – except grasslands, see below): selective and commercial thinning, clear cuttings, cork exploitation, roads constructions for wood mobilisation, etc. <i>Example of measure in the 2007-2013 RDP:</i> 122 - Improvement of the economic value of forests, 123 - Adding value to agricultural and forestry products, 226 too.	
Maintaining mosaic landscape and grazing (PP_La)	Actions related with the crop lands and mosaic landscape maintenance, and the related farming and grazing activities (including both: grasslands and complementary grazing in the forest understory). <i>Example of measure in the 2007-2013 RDP:</i> 126 - Restoring agricultural production potential, 222 - First establishment of agroforestry systems on agricultural land	
Other societal and structural support to rural development (PP_Sp)	Actions of support to rural development: training, extension services, support for business, basic services for the economy and rural population, etc. <i>Example of measure in the 2007-2013 RDP:</i> 112 - Setting up of young farmers, 341 - Skills-acquisition and animation measure with a view to preparing and implementing a local development strategy	
PREPAREDNESS (PE)	Actions related with the preparation of the exposed population and services to manage the potential emergencies. <i>Example of measure in the 2007-2013 RDP:</i> Normally, they are not included into RDP	-
RESPONSE (RE)	Actions related with fire suppression and emergency management. <i>Example of measure in the 2007-2013 RDP:</i> Normally, they are not included into RDP	-
RECOVERY (RC)	Actions related with the restoration and recovery of burnt areas. <i>Example of measure in the 2007-2013 RDP:</i> Normally, they are not included into RDP	-

* The “No effect” class is added to this table for the WP2 analysis, but not included to the institutional framework identification.

Annex 2. Institutions identified in Italy

SUMMARY CARD								
Institutions involved in fuel management and wildfire risk management								
ID	Institution	DRM cycle categories						
		AP	PP			PE	RE	RC
			_Fp	_La	_Sp			
1	Piedmont Forest Department	X	X	X	X	X		
2	Civil Protection Sector of Piedmont Region	X	X			X	X	
3	Alta Val di Susa Forest Consortium	X	X	X	X	X		X
4	Valle Susa Mountain Union	X	X	X	X	X	X	X
5	Valle d'Aosta Forest Service	X	X	X	X	X		
6	Lombardy Region Forest Department		X	X	X	X		X
7	Civil Protection Sector of Lombardy Region	X				X	X	
8	Forest and Fauna Department of the Autonomous Province of Trento	X	X	X	X	X	X	
9	Forest Service of the Province of Bolzano	X	X	X	X	X	X	
10	Forest Service of the Autonomous Region of Friuli Venezia Giulia	X	X	X	X	X	X	
11	Department for agriculture, tourism, education and employment of the Liguria Region	X	X	X	X	X	X	
12	Regional service for protected areas, forests and economic development of mountainous areas of the Emilia-Romagna region	X	X	X	X	X	X	
13	Civil Protection Sector of Emilia-Romagna Region	X				X	X	
14	Forest Department of Tuscany Region	X	X	X	X	X	X	
15	Val di Merse Mountain Union	X	X	X	X	X	X	X
16	Alta Val di Cecina Mountain Union	X	X	X	X	X	X	X
17	Union of the Municipalities of Pratomagno	X	X	X	X	X	X	X
18	Union of the Municipalities of Valdarno and Val di Sieve	X	X	X	X	X	X	X
19	Colline Metallifere Mountain Union of Municipalities	X	X	X	X	X	X	X
20	Amiata grossetana Mountain Municipalities Union	X	X	X	X	X	X	X
21	Civil Protection Sector of Marche Region	X				X	X	
22	Forest and Mountain Economy Department of Umbria Region	X	X	X	X	X	X	
23	Regional phytosanitary service (TUTELA E VALORIZZAZIONE DELLA MONTAGNA E DELLE FORESTE, BIODIVERSITA' E SVILUPPO SOSTENIBILE) - Molise Region	X	X	X	X	X	X	
24	Civil Protection Sector of Lazio Region	X				X	X	
25	Forest Department of Campania Region	X	X	X	X	X	X	
26	Civil Protection Sector of Puglia Region	X				X	X	
27	Civil Protection Sector of Basilicata Region	X				X	X	
28	Calabria verde Company	X	X	X	X	X	X	X
29	Civil Protection Sector of Calabria Region	X				X	X	
30	Forest Service of the Autonomous Region of Sicily	X	X	X	X	X	X	
31	Forest Service of Sardinia Region	X	X	X	X	X	X	
32	Forest Department of Sardinia Region (FO.RE.S.T.A.S.)	X	X	X	X	X	X	

33	Cratere degli Astroni Natural Reserve	X	X	X	X	X		X
34	"Cilento, Vallo di Diano e Alburni" National Park	X	X	X	X	X	X	X

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 1
Institution	Piedmont Forest Department			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Piedmont Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>Piedmont Region is directly involved in the wildfire prevention and protection of regional forests, according to the Italian national legislation. Wildfire prevention and restoration are under the responsibility of the Regional Forest Department.</p> <p>By the Regional Wildfire Management Plan, the Region coordinates the activities of foresight, fire prevention and firefighting.</p> <p>In the field of wildfire suppression, the Region works with Civil Protection Service and Fire Department. Training courses for volunteers are organised by the Civil Protection Service.</p>			
Complementary information	<p>The forest regional law and the regulation are available on line:</p> <p>http://arianna.consiglioregionale.piemonte.it/ariaint/TESTO?LAYOUT=PRESENTAZIONE&TIPODOC=LEGGI&LEGGI=15&LEGGEANNO=2018</p> <p>http://arianna.cr.piemonte.it/regolafo/dettaglioRegolamento.do?urnRegolamento=urn:nir:regione.piemonte:regolamento:2011-09-20;8@2018-08-23&tornaIndietro=true</p>			
Web link	https://www.regione.piemonte.it/web/temi/ambiente-territorio/foreste/tutela-bosco-territorio/incendi-bosco			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 2
Institution	Civil Protection Service of Piedmont region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Piedmont Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing	

		<input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	Civil protection is the whole of activities, which aim at preserving the integrity of life, goods, settlements, animals and environment from the consequences deriving from disasters. In Piedmont, according to the national legislation, civil protection is not a task allocated to a single department, but a service supported by a complex system. Fire prevention, assessing fire risks, firefighting, volunteers training are some activities concerning the Civil Protection Service.		
Complementary information			
Web link	https://www.regione.piemonte.it/web/temi/protezione-civile-difesa-suolo-opere-pubbliche/protezione-civile		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 3
Institution	Alta Val di Susa Forest Consortium		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Piedmont Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The consortium consists of 14 municipalities aimed to manage forests at municipality level, monitor and manage hydrogeological aspects, give technical support and implement institutional activities. The consortium draws up and update forest and grazing management plans. It has specific competence in post - fire restoration.		
Complementary information	The statute of the consortium is freely available at the following website: https://www.cfavs.it/it/statuto#briciole		
Web link	https://www.cfavs.it/it/home#XXZcr2bOPcs		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 4
Institution	Valle Susa Mountain Union			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Piedmont Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	The Union results from the initiative of 22 municipalities in the Val Susa territory (Piedmont) with multiple purposes: <ul style="list-style-type: none"> - all services falling within the competence of each municipality; - functions related to mountain activities; - development and promotion of the territory and its products; - all the functions assigned to the so called "Comunità montane", including the hydrogeological stability of river basins; - other functions such as the coordination of Civil Protection activities. 			
Complementary information	The statute of the Union is freely available at the following address: http://www.unionemontanavallesusa.it/Home/Statuto A detailed list of the activities done by the Union since 2016 is available here: http://www.unionemontanavallesusa.it/Home/Menu?IDVoceMenu=60084			
Web link	http://www.unionemontanavallesusa.it/			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 5
Institution	Valle d'Aosta Forest Service			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Autonomous Region of Valle d'Aosta, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>The Valle d'Aosta Forest Service is a technical police force working under the leadership of the Valle d'Aosta Region. It is specialized in the safeguard of the agro-forest environment, landscape and natural ecosystems. It contributes to public security and to monitoring rural and mountain areas. The Forest Fire Core is the main regional structure responsible for forest fire prevention and firefighting (L.R. 12/2002; L.R. 37/2009)</p> <p>It is specialized In the field of wildfire suppression and works with Civil Protection Service (national and regional) and Fire Department. It has technical equipment and specific tools.</p> <p>It collects forest fires data and develops forest fire hazard index at regional level, constantly.</p>
Complementary information	<p>Regional Wildfire Management Plan is available on line: http://gestionewww.regione.vda.it/corpoforestale/Piano_antincendio_boschivo/default_i.aspx</p> <p>At the following address there is a list of publications realized by the Valle d'Aosta region in partnership with the Forest Service: https://www.regione.vda.it/corpoforestale/competenze/Incendiboschivi/pubblicazioni/testi_i.aspx</p>
Web link	https://www.regione.vda.it/corpoforestale/default_i.asp
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 6
Institution	Lombardy Region Forest Department		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Lombardy Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The Forest Department of Lombardy Region is addressed to manage regional forests. It is responsible for implementing the regional forest plan as well as the forest guidance plan at sub-regional level. It grants the authorization for silvicultural activities.</p> <p>The Regional Wildfire Management Plan is the main document produced by the Department.</p>		
Complementary information	<p>The Plan is freely available at the following link: https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/Enti-e-Operatori/protezione-civile/Rischi-naturali/red-piano-aib/piano-antincendio-boschivo-aib</p> <p>Other important publications related to the theme of forest fire are:</p> <p>a) a volume about forest recovery after a wildfire: https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioPubblicazione/servizi-e-informazioni/Enti-e-Operatori/agricoltura/boschi-e-foreste/pub-a%20fiamme-spenite-AGR</p> <p>b) a pamphlet to explain forest fire damages, prevention and firefighting to kids: https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioPubblicazione/servizi-e-informazioni/Enti-e-Operatori/agricoltura/boschi-e-foreste/pub-bosco-sicuro-AGR</p>		
Web link	https://www.regione.lombardia.it/wps/portal/istituzionale/HP/servizi-e-informazioni/imprese/imprese-agricole/boschi-e-foreste		

Contact	Not publishable		
Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 7
Institution	Civil Protection Service of Lombardy Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Lombardy Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	Regional civil protection includes all the activities aimed to preserve the integrity of life, goods, settlements, animals and environment from disasters caused both by natural and human causes. In Lombardy, according to the national legislation, civil protection is not a task allocated to a single department, but a service supported by a complex system. In the field of wildfire management, the most important task of the civil protection concerns the implementation of the Regional Wildfire Management Plan.		
Complementary information	Laws regarding Lombardy Civil Protection service are on line: https://www.regione.lombardia.it/wps/portal/istituzionale/HP/DettaglioRedazionale/servizi-e-informazioni/Enti-e-Operatori/protezione-civile/normativa-protezione-civile/normativa-regionale/red-normativa-regionale		
Web link	https://www.regione.lombardia.it/wps/portal/istituzionale/HP/servizi-e-informazioni/enti-e-operatori/protezione-civile		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 8
Institution	Forest and Fauna Department of the Autonomous Province of Trento		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Autonomous Province of Trento, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	The Forest and Fauna Service is a Department included in the Autonomous Province of Trento. The main aim is to preserve and improve local forests, pastures and fauna. Forest and wildlife planning and management are the strategy to reach these objectives. In the field of wildfire management, it works with Provincial Forest Service. Since 1977, the Service has adopted a Wildlife Management Plan, periodically updated.
Complementary information	The official website is http://www.strutture.provincia.tn.it/Dettaglio_Strutture.aspx?cod_s=S044
Web link	https://forestefauna.provincia.tn.it/Foreste/Foreste-in-Trentino/Incendi-boschivi
Contact	Not publishable

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	9
Institution	Forest Service of the Province of Bolzano			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Autonomous Province of Bolzano, Italy		
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development			
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery		
Description and complementary information					
Short description and main fuel management programs	The Forest Service is a technical police force working under the leadership of the Bolzano Province. It supervises on the observance and enforcement of laws and rules on forestry, fishery, environmental and landscape. In addition, it has a technical, management, consultative and informative role. The Provincial Forest Service is responsible for forest fire prevention and firefighting. It works with Civil Protection Service and Fire Department.				
Complementary information					
Web link	http://www.provincia.bz.it/agricoltura-foreste/servizio-forestale-forestali/corpo-forestale-provinciale-cfp.asp				
Contact	Not publishable				

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	10
Institution	Forest Service of the Autonomous Region of Friuli Venezia Giulia			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Autonomous Region of Friuli Venezia Giulia, Italy		
General competences (mark as much as necessary)					

Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The Forest Service is a technical police force working under the leadership of the Friuli Venezia Giulia Region. It was established by the law in 1969 (L.R. 36/1969). It is specialized in the safeguard of the agro-forest environment, landscape and natural ecosystems. It contributes to public security and to monitoring rural and mountain areas. It carries out civil protection activities during disasters		
Complementary information	A regional forest fire database is available on line: https://www.regione.fvg.it/rafv/cms/RAFVG/economia-imprese/agricoltura-foreste/foreste/FOGLIA36/#servizi		
Web link	https://www.regione.fvg.it/rafv/cms/RAFVG/economia-imprese/agricoltura-foreste/foreste/corpo-forestale/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 11
Institution	Department for agriculture, tourism, education and employment of the Liguria Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Liguria Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	According to the National and regional Laws (L. 353/2000; L.R. 4/99 e 9/2000), in the field of wildfire management, Liguria Region is involved in planning and coordination activities. In particular, it organizes and coordinates the activities of the Forest Fire Prevention and Fighting Operational Structure, Local authorities and volunteering for fire prevention and firefighting. Objectives of the Region are the reduction of forest fires and burned areas, the development of infrastructures for forecast, prevention and intervention and the training of volunteers and citizens.		
Complementary information	The Regional Wildlife Management Plan is available on line: http://www.agriligurianet.it/it/impresa/politiche-di-sviluppo/tutela-economia-bosco/antincendio-boschivo/piano-di-previsione-prevenzione-e-lotta-attiva-contro-gli-incendi-boschivi.html The Department has realized a network for preventing forest fires. The service is now unavailable except for the institutions directly involved in firefighting: https://sia.regione.liguria.it/index.php/spirl/		
Web link	http://www.agriligurianet.it/it/impresa/politiche-di-sviluppo/tutela-economia-bosco.html		

Contact	Not publishable
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Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 12
Institution	Regional service for protected areas, forests and economic development of mountainous areas of the Emilia-Romagna region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Emilia-Romagna Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	The Department promotes and supports forestry activities to minimise the risk of wildfire and to maintain in good conditions forests and rural roads, which are essential for suppression activities. Since 1978, the Region has adopted a Regional Wildfire Management Plan. A wildfire registry is annually updated.			
Complementary information				
Web link	https://ambiente.regione.emilia-romagna.it/it/parchi-natura2000/foreste			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 13
Institution	Civil Protection Service of Emilia-Romagna Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Emilia-Romagna Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	The Service coordinates interventions at regional level in order to deal with the emergency, plans and coordinates urgent interventions for the safety of the territory and risk reduction, establishes the regional emergency plan and regional prevention and forecasting programmes, is responsible for the organization and training of volunteers and programmes activities related to forest fire It implements the activities planned by the Regional Wildfire Management Plan and is involved in case of wildfires: http://protezionecivile.regione.emilia-romagna.it/rischi-previsione-prevenzione/rischio-incendi-normativa-e-campagne-regionali
Complementary information	
Web link	http://protezionecivile.regione.emilia-romagna.it/
Contact	Not publishable

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	14
Institution	Forest Department of Tuscany Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU		Place	Tuscany Region, Italy	
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention		Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness		<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information					
Short description and main fuel management programs	The Forest and Agriculture Department of Tuscany Region has competence in agriculture and forestry. In the field of fire prevention, it draws up periodic reports concerning forest fire data, final products of a complex system of fire forecasting. Moreover, it draws up the Regional Wildfire Management Plan. The last version is referred to the period 2019-2021. For more info: http://www.regione.toscana.it/-/piano-operativo-antincendi-2019-2021?redirect=http%3A%2F%2Fwww.regione.toscana.it%2Fspeciali%2Faib-antincendi-boschivi%3Fp_id%3D101_INSTANCE_fL6JDfPHvJa%26p_p_lifecycle%3D0%26p_p_state%3Dnormal%26p_p_mode%3Dview%26p_p_col_id%3D_118_INSTANCE_3D8K0dO5rh8f_column-2%26p_p_col_count%3D1				
Complementary information	The regional forest law and the regulation are freely available at the following URL: http://www.regione.toscana.it/enti-e-associazioni/agricoltura-e-foreste/patrimonio-agro-forestale				
Web link	http://www.regione.toscana.it/speciali/aib-antincendi-boschivi				
Contact	Not publishable				

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 15
Institution	Val di Merse Mountain Union			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	It is a Union of 4 municipalities, located in Val di Merse, province of Siena. It deals with forest management and fire-fighting service, incorporating the functions of the Civil Protection Service.			
Complementary information				
Web link	http://www.valdimerse.si.it/Home.aspx			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 16
Institution	Alta Val di Cecina Mountain Union			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	The Union results from the initiative of three municipalities, located in a mountain area near Cecina, in order to safeguard the territory and natural environment. The webpage about fire-fighting competences and services is under construction at the moment.			
Complementary information	The statute of the Union is available on line: http://www.umavc.it/ente/statuto-unione-montana			
Web link	http://www.umavc.it/			

Contact	Not publishable
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Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 17
Institution	Union of the Municipalities of Pratomagno		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The Union was established in the 2009 to administer several municipal functions in an associated form. It also has the same functions of the suppressed Mountain Community.</p> <p>The Union actively cooperates to maintain infrastructures needed in case of wildfire, such as sighting points, fuelbreaks, lakes for water taking by emergency helicopters, landing sites for helicopters and so on.</p> <p>A forest fire registry is annually updated. It is available freely at the following URL: http://www.unionepratomagno.it/protezione-civile-pratomagno?q=ufficio-catasto-incendi </p>		
Complementary information			
Web link	http://www.unionepratomagno.it/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 18
Institution	Union of the Municipalities of Valdarno and Val di Sieve		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	The Union was established in 2018 by initiative of 6 Municipalities in Tuscany. It has adopted a statute which defines the aims of the Union: in particular, the Union fills in a periodically updated forest fire registry. The Union integrates the functions concerning the Civil Protection service.
Complementary information	
Web link	http://www.uc-valdarnoevaldisieve.fi.it/
Contact	Not publishable

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	19
Institution	Colline Metallifere Mountain Union of Municipalities			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy		
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery		
Description and complementary information					
Short description and main fuel management programs	The Mountain Union has competence especially in the fields of agriculture and forestry, soil preservation and manages all the functions of the suppressed Mountain Community. It draws up a series of periodic reports, the "Cadastre of forest wildfires and of fires burned in pastures that lie at less than 50 meters far from a forest". This document includes data at municipality level. It is available at the following link: http://www.unionecomunicollinemetallifere.it/la-comunita-montana/uffici/elenco-completo-degli-uffici/forestazione/catasto-dei-boschi				
Complementary information	In the territory of the Union, the Wildfire Management Plan of the coastal pine forest of Castiglione della Pescaia and Grosseto Municipalities is the only in force.				
Web link	http://www.unionecomunicollinemetallifere.it/				
Contact	Not publishable				

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	20
Institution	Amiata grossetana Mountain Municipalities Union			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Tuscany Region, Italy		
General competences (mark as much as necessary)					

Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The Union was established in 2011 by initiative of 7 Municipalities, located in a marginal mountain area near Grosseto. The Union aims to manage socio-economic functions in an associate form in order to contrast the lack of infrastructures and employment opportunities. It has competence in the fields of agriculture and forest management. A burned forest registry of the area is updated periodically.		
Complementary information			
Web link	https://www.cm-amiata.gr.it/index.php		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 21
Institution	Civil Protection Service of Marche Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Marche Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	Civil Protection copes with risk mitigation in many fields linked to public security. It manages prevention activities, including fire prevention. The Service organizes training courses for volunteers, supporting Forest Service in case of wildfire. It organizes information campaigns to inform the public on risky behaviours that can cause wildfires. Prevention activities include: creation of physical barriers where the fire risk is high, for example near the railway line, fire sighting in static (i.e. from observation towers) or dynamic way (i.e. with patrol units). More info are available at the following URL: http://www.regione.marche.it/Regione-Utile/Protezione-Civile/Previsione-e-Monitoraggio/Incendi-Boschivi		
Complementary information			
Web link	http://www.regione.marche.it/Regione-Utile/Protezione-Civile		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 22
Institution	Forest and Mountain Economy Department of Umbria Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Umbria Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>The Department has competence in the field of forest management. Umbria Region has adopted a Regional Wildfire Management Plan since 2002. It is annually updated with an operational plan regarding firefighting. In addition, the Department has competence in the field of post fire restoration. During the period of higher risk of wildfires, maps of risk are produced and updated. The Service implements direct prevention activities (i.e. realization of fuelbreaks, maintenance of edges, parking stands, railways) and indirect prevention activities (i.e. information campaigns).</p>			
Complementary information	<p>It is partner of the project "For ClimAdapt" funded by the Interreg MED Program. The UE project assesses and demonstrates the economic benefits of fire risk management planning in the regional context, considering the effects of the global climate change.</p>			
Web link	http://www.antincendi.regione.umbria.it/			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 23
Institution	Regional phytosanitary service (TUTELA E VALORIZZAZIONE DELLA MONTAGNA E DELLE FORESTE, BIODIVERSITA' E SVILUPPO SOSTENIBILE) - Molise Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Molise Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	Molise Region is engaged in several activities dealing with forest planning, hydrological risks prevention, forest fires prevention and fighting, safeguard of monumental trees. Since 2009, the Region has adopted the Regional Wildfire Management Plan. The first aim of the plan is to reduce the annual burned area.
Complementary information	
Web link	http://www3.regione.molise.it/flex/cm/pages/ServeBLOB.php/L/IT/IDPagina/278
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 24
Institution	Civil Protection Service of Lazio Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Lazio Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The Service aims at mapping, preventing and fighting the risk for people, buildings and environment to be endangered, damaged or destroyed by natural-driven or anthropic-caused events. In particular, the Service supports forecasting and forest fire prevention activities by defining risk scenarios. It implements simulation models for the assessment of floods and fire risk. It supports planning activities and updates the Regional Wildfire Management Plan. It draws up reports about the forest fire susceptibility in the territory of the Region.		
Complementary information	Annual reports about the risk at municipality level are available at the following URL: http://www.regione.lazio.it/rl_protezione_civile/?vw=documentazione&cat=Publicazioni+e+rapporti		
Web link	http://www.regione.lazio.it/rl_protezione_civile/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 25
Institution	Forest Department of Campania Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Campania Region, Italy
General competences (mark as much as necessary)			

Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The Department has competences in the field of forest fire prevention, conservation of forest biodiversity, forestry, forest planning and management. The Region has adopted the Regional Wildfire Management Plan since 2013. The plan, in force for 3 years, is periodically updated.		
Complementary information	An important goal in terms of fire prevention is the promulgation of the regional law related to prescribed fires, its ignition and use. More info can be found on line: http://agricoltura.regione.campania.it/foreste/fuoco_prescritto.html		
Web link	http://agricoltura.regione.campania.it/foreste/foreste_home.htm		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 26
Institution	Civil Protection Service of Puglia Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Puglia Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	The Regional Civil Protection System is composed by the Puglia Region– Civil Protection Service, Provinces and Municipalities, each of them has specific tasks, functions and responsibilities in the territory. According to the Regional Law (L.R.7/2014) the Civil Protection Service deals with risk assessment in the region, emergency forecasting and planning, training courses for volunteers and operators; information campaigns; support for risk reduction and mitigation; management, monitor and update of information and data recorded.		
Complementary information			
Web link	http://www.protezionecivile.puglia.it/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 27
Institution	Civil Protection Service of Basilicata Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Basilicata Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	The Civil Protection Service includes all activities, which aim at preserving the integrity of life, goods, settlements, animals and environment from the consequences deriving from disasters. The Service implements actions of forecasting and prevention of hydrogeological, wildfire and earthquake risk and puts in place strategies to overcome the emergency. The Service operates in case of wildfires. It organizes training courses for volunteers.			
Complementary information				
Web link	http://www.protezionecivilebasilicata.it/protcivbas/home.jsp			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 28
Institution	Calabria verde Company			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Calabria Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	Calabria Verde Company was established by Calabrian Regional Law 25/2013 in order to manage all the activities in the field of forestry and soil protection as a whole. It carries out activities of wildfire prevention and management supporting the Civil Protection Service at regional scale. Its main tasks in the field of forest fires are forest fire risk mapping, organizing training courses, implementing prevention operations (fuelbreaks, cleaning railways borders), territory safeguarding.			
Complementary information				
Web link	http://www.calabriaverde.regione.calabria.it/web/guest/home			

Contact	Not publishable
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Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 29
Institution	Civil Protection Service of Calabria Region		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Calabria Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>It is a public service, which includes many public institutions. The regional one coordinates forest fire-fighting activities through the Operative Unified Permanent Service.</p> <p>The tasks established by the Regional Law of Civil Protection (L. R. 4/1997) are:</p> <ul style="list-style-type: none"> • planning and managing risk prevention and forecasting activities; • planning and managing emergencies; • promoting and coordinating the Civil Protection Volunteers; • working for the dissemination and organizing training courses. 		
Complementary information			
Web link	http://www.protezionecivilecalabria.it/index.php/it/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 30
Institution	Forest Service of the Autonomous Region of Sicily		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Sicily Region, Italy
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	<p>The Forest Service of the Sicilian Region carries out at regional level the same functions and tasks of the Carabinieri Forestale Service at national level. In particular, it is involved in the organization and supporting of civil protection activities and in monitoring and protecting the wildlife and natural environment of the region.</p> <p>In addition, it carries out activities to prevent and tackle forest fires, under the coordination of the Forest Fire Service (SAB) at regional level, and by the activity of the Forestry Departmental Inspectorates at provincial level.</p>
Complementary information	
Web link	http://pti.regione.sicilia.it/portal/page/portal/PIR_PORTALE/PIR_LaStrutturaRegionale/PIR_Assessoratorregionaledelterritorioedellambiente/PIR_Comandocorpoforestale/PIR_Struttura/PIR_Organizzazioneecompetenze/PIR_UfficedelComandodelCorpoforestale
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 31
Institution	Forest Service of Sardinia Region			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Sardinia Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>The Sardinia Forest Service is a technical police force specialized in the safeguard of the agro-forest environment, landscape and natural ecosystems.</p> <p>Regarding firefighting activities, the Service has the priority task of coordinating ground-based extinguishing operations and managing an effective intervention of regional air force.</p> <p>If necessary, it can activate the procedure to engage the national aircraft, maintaining operational contacts with the National Unified Air Operations Centre (COAU).</p> <p>The Service carries out activities of prevention and repression of illegal behaviours in the field of forest fires.</p>			
Complementary information	More info: http://www.sardegnaambiente.it/index.php?xsl=611&s=19&v=9&c=5352&na=1&n=10			
Web link	http://www.sardegnaambiente.it/corpoforestale/			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 32
Institution	Forest Agency of Sardinia Region (FO.RE.S.T.A.S.)			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Sardinia Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>According to the forest regional law, FO.RE.S.T.A.S. works as technical and operative service of Sardinia Region in the field of forestry and natural environment.</p> <p>Its Territorial Services work all over the regional territory. The Agency collaborates with the Regional Forest Service for planning fire prevention and firefighting activities. It employs lookouts and firefighters' teams.</p> <p>It draws up the annual updating of the Regional Wildfire Management Plan, in force for three years. At the organizational level, Civil Protection Service, the Sardinia Region Forest Service (CFVA), FO.RE.S.T.A.S. Agency, Volunteers Organizations, the Firefighters are the main players in wildfire management.</p> <p>A Permanent Unified Operative Room (SUOP) coordinates all the Services.</p>			
Complementary information	<p>The Department joints a project on the application of a GIS-based technology to a simulation model of forest wildfire. More info available on line:</p> <p>http://www.sardegnaforeste.it/notizia/applicazione-di-un-gis-ad-un-modello-di-simulazione-di-incendi-boschivi</p>			
Web link	http://www.sardegnaforeste.it/			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 33
Institution	Cratere degli Astroni Natural Reserve			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Campania Region, Italy	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>Astroni Reserve belongs to the Campania Region, located in the municipal district of Pozzuoli, not far from Napoli.</p> <p>This Natural Reserve is a WWF oasis. It is actively involved in landscape mosaic management, which is recognized to play a crucial role in fire prevention. It is responsible for the recovery after a fire, including clearing from burned materials and waste disposal.</p> <p>The staff of the Reserve work with Civil Protection Service to patrol the territory during months of higher wildfire risk.</p>
Complementary information	Following a huge fire in 2019, the WWF has called for crowdfunding to restore and secure the natural area.
Web link	https://crateredegliastroni.org/
Contact	Not publishable

Annex 3. Institutions identified in Catalonia (Spain)

SUMMARY CARD								
Institutions involved in fuel management and wildfire risk management								
ID	Institution	DRM cycle categories						
		AP	PP			PE	RE	RC
			_Fp	_La	_Sp			
1	General Directorate of Forest Ecosystems and Environment Management	X	X					X
2	The Forest Ownership Centre (CPF)	X	X					X
3	General Directorate of Rural Development			X	X			
4	General Directorate of Rural Rangers	X				X		
5	General Directorate of Agriculture and Livestock			X	X			
6	General Directorate of Civil Protection					X	X	
7	General Directorate of Fire Prevention, Extinction and Rescue	X				X	X	
8	General Directorate of Rural Development and Forest Policy	X					X	
9	Province Authorities and Municipalities	X				X	X	
10	Forest Defense Associations	X		X		X	X	
11	Pau Costa Foundation			X		X		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 1
Institution	General Directorate of Forest Ecosystems and Environment Management		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	<p>The General Directorate of Forest Ecosystems and Environment Management is inside the Ministry of Agriculture of the Government of Catalonia. The General Directorate manage the public forest (the vast majority located in the Pyrenees, where the wildfire risk is low). Its management is articulated through wildfire prevention actions, conservation, protection and restoration actions and, writing and approval of forest plans and projects, also promoting sustainable forest management, among others.</p> <p>The General Directorate manage the subsidies for the sustainable forest management co funded with the RDP for public forests.</p> <p>Inside the General Directorate, there is the Sub-General Directorate of Forest, that coordinates the grazing, “cattle roads” and forest service’s actions and, establish actions to promote and control the improvement of forest land and the rational use and production of forest and pastures; establish measures of wildfire prevention and sensitization; promote the bio-economy of forest sector and promote and give support to the forest industries; and manage the forest measures of RDP in public forest. Inside the Sub-General Directorate, there are 2 different services:</p> <ul style="list-style-type: none"> - Forest Management Service, that manage, among others, the forest aids. This Service is divided in (1) Section of Public Forest, (2) Section of Forest Production Management and, (3) Section of Planning. - Wildfire Prevention Service, that elaborates general wildfire prevention plans, delimitate wildfire risk zones, elaborate wildfire hazard index and coordinate the sensitization campaigns, elaborate the burned areas cartography, statistics and analysis and, carry out actions and coordination with forest defence associations (ADFs). This service is divided in (1) Section of Inspection and, (2) Section of Wildfire Prevention Management. <p>There is another Sub-General Directorate of Hunting Activities and Continental Fishing, that is not analysed in this template.</p>
Complementary information	<p>The General Directorate is in charge of writing and designing the General Plan of Forest Policy of Catalonia and also the forest legislation (the main forest plan and law at regional level):</p> <ul style="list-style-type: none"> - Forest Law of Catalonia: https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa/?documentId=28548&action=fitxa - Regulatory Law of Forest Management Instruments (plans, projects, etc.): https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa/?action=fitxa&mode=single&documentId=789994&language=ca_ES - Support tools for Forest Plans/Projects elaboration: http://agricultura.gencat.cat/ca/ambits/medi-natural/gestio-forestal/planificacio-forestal/instruments-ordenacio-recursos-forestals/eines-suport-redaccio-instruments-ordenacio-forestal/
Web link	<p>http://agricultura.gencat.cat/ca/departament/adreces-telefons/direccions-generals/ecosistemes-forestals-gestio-medi/</p> <p>Organization chart: http://agricultura.gencat.cat/ca/departament/organigrama/</p>
Contact	<p>Not publishable</p>

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 2
Institution	The Forest Ownership Centre (CPF)			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>The Forest Ownership Centre (in Catalan: Centre de la Propietat Forestal, CPF) is an autonomous public body (inside the Ministry of Agriculture of the Government of Catalonia) that integrates all the management responsibilities for the administration of private forests in the region of Catalonia, Spain. It was created in 1988 to unify and streamline public administration activities related to the planning and control of private forests. The CPF also promotes sustainable forest management. It provides support to private forest owners, managers and owner associations in the management of their properties.</p> <p>CPF manage the subsidies for the sustainable forest management co funded with the RDP for private forests.</p>			
Complementary information	<p>Set of online free access publications and complementary resources about forest management guidelines in Catalonia (available in Catalan: Orientacions de Gestió Forestal Sostenible de Catalunya, ORGEST)</p> <p>Link: http://cpf.gencat.cat/ca/cpf_03_linies_actuacio/cpf_transferencia_coneixement/cpf_orientacions_gestio_forestal_sostenible_catalunya/</p> <p>Specific publication on: Integration of the risk of large forest fires in forest management (available in Catalan: Integració del risc de grans incendis forestals en la gestió forestal)</p> <p>http://cpf.gencat.cat/web/.content/or_organismes/or04_centre_propietat_forestal/01_organisme/publicacions/publicacions_tecniques/colleccions/orgest/parametres_i_indicadors_de_suport_a_la_gfs/orgest_integraci_del_risc_de_gif_en_la_gf/docs/orgest_incendis_cpf_pdf_reduida.pdf</p> <p>They also promote the planning and manage the forest management plans: technical (PTGMF, more than 25ha) and simple (PSGF, less than 20ha) for private forests.</p> <p>Link: http://cpf.gencat.cat/ca/cpf_03_linies_actuacio/planificacio_forestal/cpf_planificacio_forestal_instruments_ordenacio_forestal_iof/</p> <p>Are regulated under an own law:</p> <p>Link: https://portaljuridic.gencat.cat/ca/pjur_ocults/pjur_resultats_fitxa?action=fitxa&documentId=200812</p>			
Web link	http://cpf.gencat.cat/ca/inici			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 3
Institution	General Directorate of Rural Development			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain	
General competences (mark as much as necessary)				

Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response <input type="checkbox"/> Recovery
Description and complementary information		
Short description and main fuel management programs	<p>The General Directorate of Rural Development is inside the Ministry of Agriculture of the Government of Catalonia. The aims of this General Directorate is to elaborate and propose policies and strategies, plans and programmes related with the integral rural development, the diversification of rural economy and agrarian land; realise actions related (direct or indirect) with non-urban land with agrarian interest, specially related with urban, landscape, environment, energy, and other scopes, and order and promoting the peri-urban agriculture; among others. Inside this General Directorate there is the Sub-General Directorate of Direct Aids Management and Control, aim of it is, among others, to plan, coordinate, organize and manage direct aids in the framework of Common Market Organization (CMO) and inside the Common Agrarian Policy (CAP). This Sub-General Directorate is divided in two services:</p> <ul style="list-style-type: none"> - Aids Coordination and Register Service, with 1 section of campaign planning. - Integrate Control and Payments Service, with 2 different sections, one of conditionality and control, and other one of Payments. <p>In parallel, there is the Sub-General Directorate of Rural Planning, aim of it is to plan, coordinate and monitor the plans and programs of rural development and economic diversification and, the management of rural development aids, including the Rural Development Program (RDP) of EU, among others. This Sub-General Directorate is divided in 3 services:</p> <ul style="list-style-type: none"> - Aids to Agricultural Competitiveness Service, that manage, among others, the investment measures related with the competitiveness of farms. This Service has the Section of Aids to Agricultural Structures. - Aids to Agrarian Sustainability Service, aim of it is to coordinate and manage the agro-environmental measures and disadvantaged areas; to manage other measures related with non-productive and sustainability investments in the farms; and to manage agrarian insurances aids, those destined to alleviate damages on farms produced by climate adversities or wildfires. This Service is divided in Section of Agro-environmental Aids and Disadvantaged Areas, and Section of Agrarian Insurances. - Rural Programming and Revitalization Service, aim of it is to design and coordinate de programming, financial execution, tracing and evaluation of RDP, among others. This Service has the Section of Rural Programming, aim of it is to coordinate, review the financial execution and doing the tracing and evaluation of RDP; to coordinate and doing support to the activities of tracing units of RDP; and to guarantee that the selection of the financeable operations through the RDP measures adjust to the Program criterion. <p>There is other Sub-General Directorate of Rural Infrastructures, aim of it is to elaborate plans and programmes related with agrarian and rural infrastructures, of irrigation, also doing their control of execution and evaluation of results.</p>	
Complementary information	-	
Web link	Organization chart: http://agricultura.gencat.cat/ca/departament/organigrama/	
Contact	Not publishable	

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 4
Institution	General Directorate of <i>Rural Rangers</i>		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain

General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The General Directorate of Rural Rangers is inside the Ministry of Agriculture of the Government of Catalonia. This General Directorate coordinates the <i>Rural Rangers</i> body, which develops surveillance, inspection, management, research, information and environmental protection actions. Among others, this body has the competence of regulate the access in a forest fire high-risk areas, inspect the causes of a wildfire, fire watch, etc. This General Directorate is divided in:</p> <ul style="list-style-type: none"> - Administrative Coordination Service - General Area of Rural Rangers Body, that works as a special administrative police, with the general functions of surveillance, inspection, investigation, information, counselling, divulgation and environmental education, and the specialised functions related with wildfires, wildlife, hunting, fishing, protected natural spaces, biodiversity and forestry. They are in charge of controlling the correct implementation of the fire prevention law. For instance, they regularly check the obligation of railway, electricity or road managers to reduce fuels in the immediate area of influence. 		
Complementary information	<p>The specific actions related with wildfires are connected with a daily wildfire risk map of Catalonia, and a specific plan (Pla Alfa), which is the operational process to define the specific preventive and surveillance actions in the territory in front of a specific situation of wildfire risk.</p>		
Web link	http://agricultura.gencat.cat/ca/departament/agents-rurals/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 5
Institution	General Directorate of Agriculture and Livestock		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	<p>The General Directorate of Agriculture and Livestock is inside the Ministry of Agriculture of the Government of Catalonia. The aim of this General Directorate is to plan and coordinate the policies, strategies, programs and plans regarding agriculture and livestock. This General Directorate is organized by the Sub-General Directorate of Agriculture, that coordinates the aspects related to agriculture, and is divided in 3 services, 2 sections, 1 Laboratory and 1 Centre. And the Sub-General Directorate of Livestock, that coordinates the policies, strategies, programs and plans regarding livestock, as well as promotes the livestock production management actions, among others. This Sub-General Directorate is divided in:</p> <ul style="list-style-type: none"> - Livestock Management Service, aim of it is to make proposals of livestock sector aids and manage it; and also make proposals regarding the promotion and improvement of livestock production. Inside this Service there is one Section of Livestock Sectorial Management. - Health Animal Prevention Service with 3 sections. - Animal Feed and Livestock Production Security Service with 1 section.
Complementary information	-
Web link	Organization chart: http://agricultura.gencat.cat/ca/departament/organigrama/ http://agricultura.gencat.cat/ca/departament/adreces-telefonos/direccions-generals/agricultura-ramaderia/
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 6
Institution	General Directorate of Civil Protection		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			

<p>Short description and main fuel management programs</p>	<p>The General Directorate of Civil Protection is inside the Home Affairs Department of the Government of Catalonia.</p> <p>The aims of this public body are, to promote the elaboration of civil protection plans; coordinate the elaboration, maintenance and review of risks map of civil protection of Catalonia; boost the civil protection investigation and the training of public administration staff related to civil protection and; propose regulatory initiatives related to emergencies and civil protection, guidelines and criteria related to self-protection and its associated planning; among others.</p> <p>This General Directorate has the Sub-General Directorate of Civil Protection Programmes, aim of it is to coordinate the elaboration and implementation of Civil Protection emergency plans; support the Civil Protection at municipality level (risk prevision, prevention, planning intervention, training, information, sensitization and rehabilitation); elaboration and maintenance of Catalonia Civil Protection risk map and the Catalogue of resources and mobilizable services; boost severe risk prevention activities in the framework of specific regulations; and propose and implement strategies and communications programs regarding prevention and self-protection to the population.</p> <p>Inside this Sub-General Directorate there are the Responsible of Self-protection Plans and Responsible of Information.</p> <p>The Sub-General Directorate is divided in:</p> <ul style="list-style-type: none"> - Risk Management and Planning Service, aim of it is to elaborate the territorial and special Civil protection plans; the elaboration and study of risk analysis methodologies, definition of prevention actions and emergency planning; the elaboration and maintenance of a risk model realised according to the historical accident rate, risk variables and collection the corresponding estimations. This Service has the Section of Emergency Plans, the Responsible of Planning and Natural Hazards (coordination of analysis risk studies and technician divulgation of risk knowledge, among other aims) and the Responsible of Risk Management and their Planning (advise of risk prevention system establishment and the criteria of their evaluation system; establish a comparative work analysis between preventive and self-protection measures for the different risks; realise vulnerability studies of possible affected people regards the existing risks; participation in the writing of technical regulations and legal dispositions regards civil protection and plans). - Implementation Service, aim of it is to program, design, organize and evaluate the exercises and drills corresponding to the plan implementations, among others. Inside this Service there are a Section of Programming and a Responsible of Organization of Activity Support to Implementation. <p>The General Directorate has also a Sub-General Directorate of Emergency Management and Coordination, aim of it is to exercise the technical direction of Operative Coordination Centre of Catalonia (CECAT in Catalan) for the integral emergency management; and create, set up and lead the logistic support system in Civil Protection, among others.</p> <p>This Sub-General Directorate is divided in:</p> <ul style="list-style-type: none"> - Responsible of Operations, aim of it is to collaborate on action protocols elaboration of CECAT, among others. - CECAT, is the superior centre of coordination and information of Catalonia Civil Protection structure. This Centre promotes the good management of emergencies through the coordination of different operative bodies, organisms and institutions involved in the resolution of a situation where it might be necessary the activation of an emergency plan, among others. - Emergency Management Service, aim of it is to manage the human and technologic resources of CECAT and, establish the necessary procedures to determine and evaluate the consequences of sinister and significant risks at real time, among others. - Logistic and Territorial Operative Service, aim of it is to design and establish the logistic support system in civil protection in Catalonia and, programming the operative resources for the civil protection actions and operations and their sizing, among others.
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Complementary information	<p>Informative material:</p> <ul style="list-style-type: none"> - Diptych (French, Spanish, Catalan, English): http://interior.gencat.cat/web/.content/home/030_arees_dactuacio/proteccio_civil/consells_autoproteccio_emergencies/incendi_del_bosc/documents/diptic_infocat_multilingue.pdf - “Protect yourself from forest fires” : http://interior.gencat.cat/web/.content/home/030_arees_dactuacio/proteccio_civil/consells_autoproteccio_emergencies/incendi_del_bosc/documents/llibret_incendis_forestals_ang.pdf <p>Risk map of Catalonia: https://pcivil.icgc.cat/pcivil/v2/index.html#41.71149,1.75979,3z</p>
Web link	http://interior.gencat.cat/ca/arees_dactuacio/proteccio_civil/index.html
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 7
Institution	General Directorate of Fire Prevention, Extinction and Rescue		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			

<p>Short description and main fuel management programs</p>	<p>The General Directorate of Prevention, Fire Extinction and Rescue is inside the Ministry of Home Affairs of the Government of Catalonia. The aim is to lead the commander of firefighters of Catalonia, the coordination and inspection of the prevention, extinction and rescue services; also boosting the specific policies of these services; promote the operative coordination and the elaboration of action plans of these services; and promote and divulge self-protection as a prevention mechanism and develop specific programs of training and information.</p> <p>The General Directorate has the Operative Sub-General Directorate, aim of it is to plan and manage the intervention operations related with prevention, wildfire extinction and rescue in Catalonia; establish the operative instructions and guidelines to follow by firefighters of the Government of Catalonia, voluntary firefighters and other operative personnel and; identify, develop and implement new intervention strategies and the associated resources.</p> <p>Inside this Sub-General Directorate, there are:</p> <ul style="list-style-type: none"> - Division of Planning and Management, aim of it is to lead the elaboration of reports, preparation of documentation related with services realised by the personnel of firefighter's body; study, elaborate and coordinate plans of deployment and development of human resources of the Sub-General Directorate and; participate on the elaboration of campaigns and activities of dissemination to the people, among others. Inside it there are the Unit of Support to the Management, Unit of Volunteer Firefighters and the Responsible of Administrative Support. - Division of Special Operative Groups, aim of it is to elaborate the action plans and procedures of the Special Groups in coordination with the other operative services; study the applicability of new techniques and technologies and; identify, develop and implement new specific intervention strategies and propose the resources and associated equipment, among others. Inside it, there are the Technical Unit – Support Group for Forestry Actions (UT-GRAF) (Unitat Tècnica – Grup de Recolzament d'Actuacions Forestals, in catalan) that was born in 1999 as a technical unit specialized in forest fires knowledge, in the weak of great wildfire of Central Catalonia in 1998. Their tasks are to propose the most appropriate intervention strategy in forest fires; provide technical assistance to the operational commanders of the incident; propose new strategies and procedures for action against forest fires; propose the use of specific equipment to confront forest fires; development of maneuvers specifically indicated for the performance of forest fires; preparation of technical reports and investigations; and the design and elaboration of prescribed fires; the Unit of Special Actuation Groups, that has the Special Actuation Support Group of Mountain and Underwater, the Unit of Medical Emergencies and the Coordinator of Forestry Operational Prevention Actions, and others. - Division of Operations, aim of it is to establish the procedures and action guides of the services realised by firefighters (when it does not correspond to the special groups) and analyse and propose operational and technical improvements, among others. - Division of Central Room of Firefighters, aim of it is to give information and logistic support to the Operative Sub-General Directorate and the emergency regions. - Then, there are different Emergency Regions divided in the Catalan Territory, aim of it is to establish the operative commander of intervention in sinister or emergencies, among others. <p>The aim of the Technical Sub-General Directorate is to elaborate and propose the legal dispositions and regulations for fire prevention and other emergencies; lead and coordinate the activities of fire information and prevention and other emergencies and, promote and divulge self-protection as a prevention measure. Inside this Sub-General Directorate there are:</p> <ul style="list-style-type: none"> - Technical Service, aim of it is to analyse, in coordination with the other Divisions, the needs of technical means for the development of General Directorate tasks. - Prevention Service, aim of it is to boost and coordinate the operative prevention activities realised by the Emergency Regions and, propose the elaboration of legal dispositions for fire prevention and other emergencies. Inside it, there are the Operative Prevention Section, and the Technical Prevention Section.
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Complementary information	<p>Wildfire information available:</p> <ul style="list-style-type: none"> - (English) https://interior.gencat.cat/en/arees_dactuacio/bombers/foc-forestal/incendis_forestals/index.html - (English) https://interior.gencat.cat/en/arees_dactuacio/bombers/foc-forestal/index.html <p>UT-GRAF have participated in some research and operational projects:</p> <ul style="list-style-type: none"> - Fire Paradox: http://www.fireparadox.org/ - Fire-in: https://fire-in.eu/#fire-and-rescue-thematic
Web link	-
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information			ID INST_	8
Institution	General Directorate of Rural Development and Forest Policy		<input checked="" type="checkbox"/> Public	<input type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> EU	Place Spain
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>The General Directorate of Rural Development and Forest Policy is inside the Ministry of Agriculture, Food and Environment of the Government of Spain. The aim is to coordinate the activities related to face wildfires and the extinction support to the autonomous communities. The General Directorate has the Forest Fires Defense Area aim of it is to develop the actions related to defense and fight to wildfires, inside the legal framework. Inside the Ministry there is also the:</p> <ul style="list-style-type: none"> - Forest Fires National Information Coordination Centre, aim of it is the elaboration of forest fires national statistics, canalization and disposition to the competent administrations of the real-time information, and give support to the autonomous communities. - Joint Commission between Ministry of Defense and Agriculture, aim of it is to attend the needs of aerial means (regards to their operability, maintenance and availability). - Forest Fires Fighting Committee, is a technical committee, formed by representatives of each administration; aim of it is to coordinate the actions regards to wildfire defense. 			

Complementary information	<p>Legal framework:</p> <ul style="list-style-type: none"> - Orden de 2 de abril de 1993 por la que se publica el Acuerdo de Consejo de Ministros que aprueba la Directriz Básica de Planificación de Protección Civil de Emergencia por Incendios Forestales. - Acuerdo de Consejo de Ministros de 31 de marzo de 1995, que aprueba el Plan Estatal de Protección Civil por Emergencia de Incendios Forestales. - Ley 43/2003, de 21 de noviembre, de Montes. - Real Decreto 1130/2008, de 4 de julio, por el que se desarrolla la estructura orgánica básica del Ministerio de Medio Ambiente. - Real Decreto-Ley 11/2005, de 22 de julio, por el que se aprueban medidas urgentes en materia de incendios forestales. - Ley 10/2006, de 28 de abril, por la que se modifica la Ley 43/2003, de 21 de noviembre, de Montes. - Real Decreto 1424/2008, de 14 de agosto, por el que se determinan la composición y las funciones de la Comisión Estatal para el Patrimonio Natural y la Biodiversidad, se dictan las normas que regulan su funcionamiento y se establecen los comités especializados adscritos a la misma. - Ley 3/2010, de 10 de marzo, de Medidas Urgentes para paliar los daños producidos por los incendios forestales y otras catástrofes naturales ocurridas en varias CCAA.
Web link	-
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 9
Institution	Province Authorities and Municipalities			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Barcelona, Girona, Tarragona, Lleida Province and Municipalities	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>Catalonia at administrative level, is divided in 4 different Provinces: Barcelona, Girona, Tarragona and Lleida, that group municipalities of a specific territory. Each one is an institution of local government that impulse the progress and the wellness of their citizens</p> <p>The Barcelona Province group 311 municipalities, the Girona Province group 221, Tarragona Province group 174 municipalities, and Lleida Province group 231 municipalities. There are governed by the majors (and others) of these municipalities. There are different work lines as, environment, trade and consumption, culture, education, urbanism, territory and natural parks, etc. Inside the different themes, there are offices, that is of special attention:</p> <ul style="list-style-type: none"> - From the Barcelona Province Authority: the Technical Office of Municipal Wildfire Prevention and Agrarian Development offers technical and economic support to the municipalities of the province to prevent wildfires through forest plans and management with direct incidence in wildfire prevention; applying a specific regulation regarding wildfire prevention in WUI; providing road infrastructures and water points and; making social sensitization and risk communication. - From the Girona Province Authority: the Department of Environment has a Wildfire Prevention section, aim of it is to advise and offer general and specific, technical and service provision assistance to the municipalities regarding wildfire prevention, especially in the accomplishment of the law of wildfire prevention measures in urbanizations, buildings, etc., situated in forest land. Also has the competence of develop the information and surveillance campaigns against wildfire in natural protected spaces with high level of risk, among others. - From the Tarragona Province Authority: related with wildfire there is a service of Wildfire Prevention and Civil Protection, where the Province Authority offers to the municipalities aids to develop wildfire prevention actions, and technical assistance to the elaboration of emergency or prevention plans, and also offers legal and economic assistance. - From the Lleida Province Authority: no info available. <p>In parallel, it may happen that the municipalities subsidize directly the fuel management actions. Normally they are coordinated with the Province programs and are done partially with own resources (only in the biggest ones), or through subsidies.</p>
Complementary information	<p>The office applies a specific law that force to all WUI (in the Barcelona province) to have a perimeter fringe of 25 meters around the urban settlements through the WUI prevention plans.</p> <ul style="list-style-type: none"> - Wildfire info-video from Girona Province Authority: http://www.ddgi.cat/web/servei/1229/videos-informatius-de-prevenio-d-incendis-en-zones-habitades&utm_source=topweb&utm_medium=banner&utm_campaign=PrevenioIncendis2019
Web link	https://www.diba.cat/en/web/directori/oficina-tecnica-de-prevenio-municipal-d-incendis-forestals
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 10
Institution	Forest Defense Associations		<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	

	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The Forest Defense Associations are entities formed by forest owners, municipalities, volunteers and other municipality entities that have the aim to prevent and face wildfires.</p> <p>The Associations were regulated in 1986 as a consequence of "Foc Verd" program (elaborated by the Ministry of Agriculture of the government of Catalonia) after the great wildfires in Catalonia.</p> <p>They have different objectives, as the elaboration and collective execution of surveillance and wildfire prevention programmes; the active collaboration in the organization, control and execution of different measures from the General Directorates competent in wildfire; the execution of informative campaigns for forest owners regards to actions of wildfire prevention and fighting; the execution of prevention plans, creation and maintenance of infrastructures, road networks and water points; and give support to wildfire extinction.</p>		
Complementary information	<p>- Documents and interest material: https://sfadf.org/materials/</p>		
Web link	https://sfadf.org/adfs-de-catalunya/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management						
Basic information					ID INST_	11
Institution	Pau Costa Foundation (PCF)				<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU		Place	International		
General competences (mark as much as necessary)						
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development			
	<input checked="" type="checkbox"/> Preparedness		<input type="checkbox"/> Response		<input type="checkbox"/> Recovery	
Description and complementary information						
Short description and main fuel management programs	<p>The Fire Ecology and Management Foundation Pau Costa Alcubierre is an information platform on forest fire management, as well as an instrument to divulge and investigate in fire ecology. The Foundation was born to respond to some needs identified in the fire community as the need for agility in the communications among the forest fire community, the needs of exchanges among the different institutions and at different levels to improve the management of forest fires, and to capitalize on the accumulated experience.</p> <p>The objectives are the research in the field of forest fire ecology, the creation of knowledge, tools and techniques for the management of forest fires, and the dissemination of this knowledge to the technical world through training and dissemination instruments, through three major groups around the wildfire community: the social world, the operative world and the academic world. Linking these three worlds is part of the task and objective of the Pau Costa Foundation.</p>					

Complementary information	<p>Dissemination actions:</p> <ul style="list-style-type: none"> - MEFiTU – Environmental awareness program for children and teachers. (http://www.paucostafoundation.org/ing/single_projectes.php?id=4&categoria=Divulgacio) - Journal Clubs - Promoting knowledge among expert groups and society in general. (http://www.paucostafoundation.org/ing/single_projectes.php?id=14&categoria=Divulgacio) - Others: http://www.paucostafoundation.org/ing/llistat_projectes.php?categoria=Divulgacio <p>Courses, forums and seminars:</p> <ul style="list-style-type: none"> - Forum on Catalan Wildfire Research (http://www.paucostafoundation.org/ing/single_formacio.php?id=105&categoria=presencial) - Course of use of Fire in the management and planning of the territory (http://www.paucostafoundation.org/ing/single_formacio.php?id=98&categoria=presencial) - Others: http://www.paucostafoundation.org/ing/llistat_formacio.php?categoria=presencial <p>Projects:</p> <ul style="list-style-type: none"> - HEIMDALL: Multi-hazard cooperative management tool for data exchange; response planning and scenario building (http://heimdall-h2020.eu/) - Others: http://www.paucostafoundation.org/ing/llistat_projectes.php?categoria=IDI
Web link	http://www.paucostafoundation.org/ing/index.php
Contact	Not publishable

Annex 4. Institutions identified in Portugal

SUMMARY CARD								
Institutions involved in fuel management and wildfire risk management								
ID	Institution	DRM cycle categories						
		AP	PP			PE	RE	RC
			_Fp	_La	_Sp			
1	Instituto da Conservação da Natureza e Florestas (ICNF) – Forest Services	X	X	X	X	X	X	X
2	Agência para a Gestão Integrada de fogos rurais (AGIF)	X				X	X	X
3	National Emergency and Civil Protection Authority (ANEPC)	X				X	X	
4	Electricity of Portugal (EDP Distribuição)	X		X		X		
5	Rede Energética Nacional (REN)	X		X	X	X		X
6	Infraestruturas de Portugal (IP) – Infrastructures of Portugal	X				X		
7	Municipalities	X	X	X	X	X	X	X
8	Organização de Produtores florestais (OPF)	X	X	X	X	X	X	X
9	Baldios – Communal lands	X	X	X	X	X	X	X
10	GIFF - Gestão Integrada e Fomento Florestal, Lda	X	X	X	X	X	X	X
11	Montis – Conservação da Natureza	X		X	X	X		
12	Cooperativa Terra Chã	X		X	X	X		X

Institutions involved in fuel management and fire risk management				
Basic information			ID INST_	1
Institution	Instituto da Conservação da Natureza e Florestas (ICNF) – Forest Services		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU		Place	Portugal
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness		<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information				
Short description and main fuel management programs	<p>Public institute with the responsibility to define and apply the national forest politics. They provide the guidelines and strategies on where to implement fuel management, forest fire defence plans, statistics, etc.</p> <p>In their organic structure it is included a forest management and valorisation department, a rural forest management department and the national command for the forest firefighters sappers. They also supervise the work of the forest sappers teams spread in different institutions, having the responsibility of the half year funding of these teams, time that they perform public services (high fire risk – late spring, summer and early autumn).</p>			

Complementary information	http://www2.icnf.pt/portal/florestas/dfci Weblink to get all the information about wildfires, statistics, plans, studies, reports and cartography.
Web link	www.icnf.pt
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 2
Institution	Agência para a Gestão Integrada de fogos rurais (AGIF)			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>The Agency for Integrated Rural Fire Management (AGIF) is coordinating strategically, integrated and transversally the implementation of the Integrated Rural Fire Management System (SGIFR) by the responsible entities, namely the National Emergency and Civil Protection Authority, Republican National Guard and the Institute for Nature Conservation and Forests.</p> <p>The SGIFR will be implemented in 5 years along four strategic axes:</p> <ul style="list-style-type: none"> 1 – Enhance rural areas; 2 – Take care of rural areas; 3 – Change Risk Behaviours; 4 - Empower institutions for risk management; 			
Complementary information				
Web link	www.agif.pt			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 3
Institution	National Emergency and Civil Protection Authority (ANEPC)			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal	
General competences (mark as much as necessary)				

Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>ANEPC is a central service of the direct administration of the State, with administrative and financial autonomy and its own assets.</p> <p>ANEPC's mission is to plan, coordinate and implement emergency and civil protection policies, including the prevention and response to major accidents and disasters, the protection and relief of populations, the coordination of civil protection agents, as provided by law, and ensure the planning and coordination of national emergency civil planning needs to deal with crisis or war situations.</p> <p>Also have responsibilities on emergency civil planning, risk forecasting and management, and civil protection emergency planning, protective and relief activity, civil protection resources and fire brigade activities. http://www.prociv.pt/</p> <p>It includes a special force of firefighters who have a special role of collaborating on structural prevention, raising awareness among other functions. http://www.prociv.pt/pt-pt/FORCAESPBOMBEIROS/APRESENTACAO/MISSAOEVALORES/Paginas/default.aspx</p>		
Complementary information	<p>Besides coordinating all the civil protection and firefighting services for the response, they created a specific program for people preparedness and safety that started to be implemented in 2018 (Aldeia Segura, Pessoas Seguras – Safe village, safe people).</p> <p>http://www.prociv.pt/pt-pt/paginas/avisos.aspx?detailId=71</p>		
Web link	www.prociv.pt		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management				
Basic information			ID INST_	4
Institution	Electricity of Portugal (EDP Distribuição)		<input checked="" type="checkbox"/> Public	<input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> EU	Place (region and/or country/ies)
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>EDP Distribuição is mainland Portugal's distribution system operator that connect power suppliers to their customers. , respecting high standards of quality efficiency. They ensure network expansion and reliability. They apply energy efficiency solutions and develop a smarter energy distribution grid.</p> <p>Since 2006, by law, this operator has to manage fuel below and on the surrounding of their power lines (1st, 2nd and 3rd level of power).</p> <p>The buffer lines must be of 10 meters (each side) for the 1st level, 7 meters for the 2nd level and for the 3rd level, the trees canopy must have a distance from the line of 2,5 meters.</p> <p>Decree- law nº124/2006 28th june (national system of forest fire defence)</p>
Complementary information	(main regulatory frame, planning tools, organisational support tools and other related policy instruments related with fuel management)
Web link	https://www.edpdistribuicao.pt/en
Contact	Not publishable

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	5
Institution	Rede Energética Nacional (REN)			<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development			
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response		<input checked="" type="checkbox"/> Recovery	
Description and complementary information					
Short description and main fuel management programs	<p>REN - Redes Energéticas Nacionais operates in two major business areas:</p> <p>The transmission in very high voltage electricity and overall technical management of the National Electricity System;</p> <p>The transport of high-pressure natural gas and overall technical management of the National Natural Gas System, guaranteeing the reception, storage and regasification of LNG and underground storage of natural gas.</p> <p>With the creation of the Portuguese National Defence System Against Forest Fires (SNDFCI) the Fuel Management Corridor Networks were also created, and REN's infrastructure was integrated into the so-called secondary network. Decree-Law No. 124/2006, of 28 June (republished by DL No. 17/2009, of 14 January) imposes on the entity responsible for the operation of the power transmission lines the responsibility of managing the fuel in the forest areas previously defined in the Municipal Plans for the Defence Against Forest Fires (PMDFCI).</p>				
Complementary information	<p>On their sector related with sustainability, REN have 2 lines of work related with Protection Against Rural Fires (https://www.ren.pt/en-GB/sustentabilidade/environmental_protection/protecao_contra_fogos_rurais/) and REN – Corridor Reforestation Programme (https://www.ren.pt/en-GB/sustentabilidade/environmental_protection/programa_de_reflorestacao_das_faixas/)</p>				

Web link	www.ren.pt
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 6
Institution	Infraestruturas de Portugal (IP) – Infrastructures of Portugal		<input checked="" type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>Infrastructures of Portugal is the public company resulting from the merger between Rede Ferroviária Nacional - REFER, E.P.E. (REFER, EPE) and EP - Estradas de Portugal, SA (EP, SA), through which REFER, EPE, merges EP, SA and is transformed into a public limited company, renamed Infraestrutura Portugal, SA (IP, SA).</p> <p>IP, whose sole shareholder is the Portuguese State, is subject to the supervision of the Ministries of Planning and Infrastructure and Finance.</p> <p>IP has as its object the conception, design, construction, financing, conservation, operation, requalification, extension and modernization of the national road and rail networks, including the command and control of traffic.</p> <p>With the creation of the Portuguese National Defence System Against Forest Fires (SNDFCI) the Fuel Management Corridor Networks were also created, IP was integrated into the so-called secondary network. Decree-Law No. 124/2006, of 28 June (republished by DL No. 17/2009, of 14 January) imposes on the entity the responsibility of managing the fuel in the forest areas previously defined in the Municipal Plans for the Defence Against Forest Fires (PMDFCI).</p>		
Complementary information	https://www.infraestruturasdeportugal.pt/pt-pt/ambiente/gestao-ambiental/areas-de-especialidade/arborizacao/defesa-da-floresta-contra-incendios https://dre.pt/web/guest/pesquisa/-/search/358491/details/normal?!=1		
Web link	https://www.infraestruturasdeportugal.pt/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management		
Basic information	ID INST_	7

Institution	Municipalities	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The local power in Portugal are the municipalities and below this level we have the parishes. Each municipality by law, needs to do the municipal plan for fire defence where it is included all the fire prevention activities for the municipality. Also it is their duty to implement it. https://dre.pt/application/file/a/114484292</p> <p>Simultaneously there are several passive prevention activities performed by municipalities, but in some cases are just isolated activities and not general for the total amount of municipalities.</p> <p>Usually municipalities have a volunteer association of firefighters. Also, they can have forest sappers teams.</p>		
Complementary information			
Web link	www.anmp.pt		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information		ID INST_	8
Institution	Organização de Produtores florestais (OPF)	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The OPF (Forest Producers Association) have the role to support farmers and forest producers on their forest management and forest fire prevention. Also most of them have team of forest sappers, which are a human force that during the cold months of the year perform forest management actions, fuel management, this means, all the necessary work in the forest (silvicultural actions). During the fire critical period, these teams work on surveillance, first intervention and mop-up activities. In Portugal there are more than 100 OPF, which are in some cases aggregated in OPF's federation.</p>		

Complementary information	There are several federations of OPF so, I am sending the most known. Forestis – Rosário Oliveira http://forestis.pt/ UNAC – Conceição Santos http://www.unac.pt/ FENAFLORESTA - CONFAGRI - Luis Calaim https://www.confagri.pt/associadas/fenafloresta/ FNAPF - Federação Nacional das Associações de Proprietários Florestais http://www.fnapf.pt/#
Web link	
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 9
Institution	Baldios – Communal lands			<input checked="" type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Short description and main fuel management programs	<p>Baldios are communal lands that represents almost 500.000 hectares of forest land. These areas are managed by commoners (communities) in small villages and usually are on the top of the mountains.</p> <p>These areas have a multifunctional system since they have forest, livestock and a lot of non-wood forest products. Their management includes active prevention with fuel removal and in several cases they use prescribed burning to reduce fuel loads. Also they have grazing, honey, and resin, among other productions that can be considered passive prevention. Many communal lands have forest sappers teams.</p> <p>The legislation that applies to this type of land tenure and management is: Lei n.º 75/2017, de 17 de Agosto https://dre.pt/home/-/dre/108010871/details/maximized</p>			
Complementary information	There are two federations that work directly with the communal lands Forestis – Rosário Oliveira http://forestis.pt/ BALADI – Armando Carvalho - baladi.baldios@gmail.com			
Web link	https://www.baladi.pt/sitio/index.php/servicos			
Contact	Not publishable			

Institutions involved in fuel management and fire risk management

Basic information				ID INST_	10
Institution	GIFF - Gestão Integrada e Fomento Florestal, Lda			<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional	<input type="checkbox"/> National	<input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness		<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information					
Short description and main fuel management programs	<p>GIFF - Gestão Integrada e Fomento Florestal, Lda, is a private company providing forest fire prevention and suppression services.</p> <p>The company proposes an integrated approach to forest management and exploitation through the protection of forest heritage against destruction caused by forest fires, with a realistic and objective approach to the potential for fire to spread on its properties, and measures to mitigate this risk.</p> <p>Among other services, the company plans and executes prescribed burning and organizes specialized technical training actions according to the needs of its customers.</p> <p>The exploration of resin in stands of pine forest is currently one of the main activities of the company, also providing services in the preparation of Forest Management Plans and Forest Projects under the PDR2020.</p>				
Complementary information					
Web link	https://www.facebook.com/gifflda/				
Contact	Not publishable				

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	11
Institution	Montis – Conservação da Natureza (Nature Conservation)			<input type="checkbox"/> Public	<input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional	<input type="checkbox"/> National	<input type="checkbox"/> EU	Place	Portugal
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness		<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information					
Short description and main fuel management programs	<p>Non-governmental, non-profit and nationwide organization with the objective of guaranteeing the development of natural processes, promoting native species conservation, smartly manage forest fires and other natural hazards and increasing the biodiversity market value.</p>				

Complementary information	Project ICNF Award – The way of smoothness (O caminho da suavidade), funded by the Environmental Fund (ICNF) in 2017: Management of 100 hectares of the baldio of Carvalhais (São Pedro do Sul), which was transferred for a 10 yr renewable period. The main objective is to increase the global biodiversity of the area (especially for species that respond more quickly to management actions: 1) flora, especially herbaceous and shrubs; 2) invertebrates; 3) birds; 4) mammals). One of the sub-objectives is to increase the resilience to natural hazards, including fire.
Web link	http://montisacn.com/
Contact	Pedro Oliveira 969 414 983 biooliv@gmail.com (Personal) Henrique Pereira dos Santos 962 963 301 as1075017@sapo.pt (Personal)

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	12
Institution	Cooperativa Terra Chã			<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal		
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery		
Description and complementary information					
Short description and main fuel management programs	Cooperative (non-profit organization) structured as a business, set up in 2001 to frame and develop a process of social and solidarity economy with local community and landscape in its center. It manage a communal flock of sapper-goats for fuel management, fire prevention, etc., and produces of other endogenous products (ej., honey). It has a restaurant and runs a rural tourist accommodation.				
Complementary information					
Web link	www.cooperativaterracha.pt				
Contact	geral@cooperativaterracha.pt				

Annex 5. Institutions identified in Greece

SUMMARY CARD								
Institutions involved in fuel management and wildfire risk management								
ID	Institution	DRM cycle categories						
		AP	PP			PE	RE	RC
			_Fp	_La	_Sp			
1	General Directorate of Forest and Forest Environment	X	X			X		X
2	General Directorate of Forest and Rural Affairs	X	X	X		X		X
3	General Secretariat for Civil Protection	X	X			X	X	X
4	Forest Directorate of Eastern Attiki, Local Forest Service of Lavrio	X	X			X		X
5	Municipality of Rafina - Pikermi			X		X	X	X
6	Chios Voluntary Action Team - Omikron	X				X	X	X
7	ΔΕΔΔΗΕ S.A., ΑΔΜΗΕ S.A., ΟΣΕ S.A. and ΔΕΣΦΑ (Electricity, Railway and Gas companies)	X				X		
8	Decentralized Administration (DA)	X	X			X		X
9	Directorate of Reforestation - Decentralized Administration of Attica							X
10	Directorate of Forests of Dodecanese Belongs to the Decentralized Administration Authority of Aegean	X	X	X	X	X	X	X

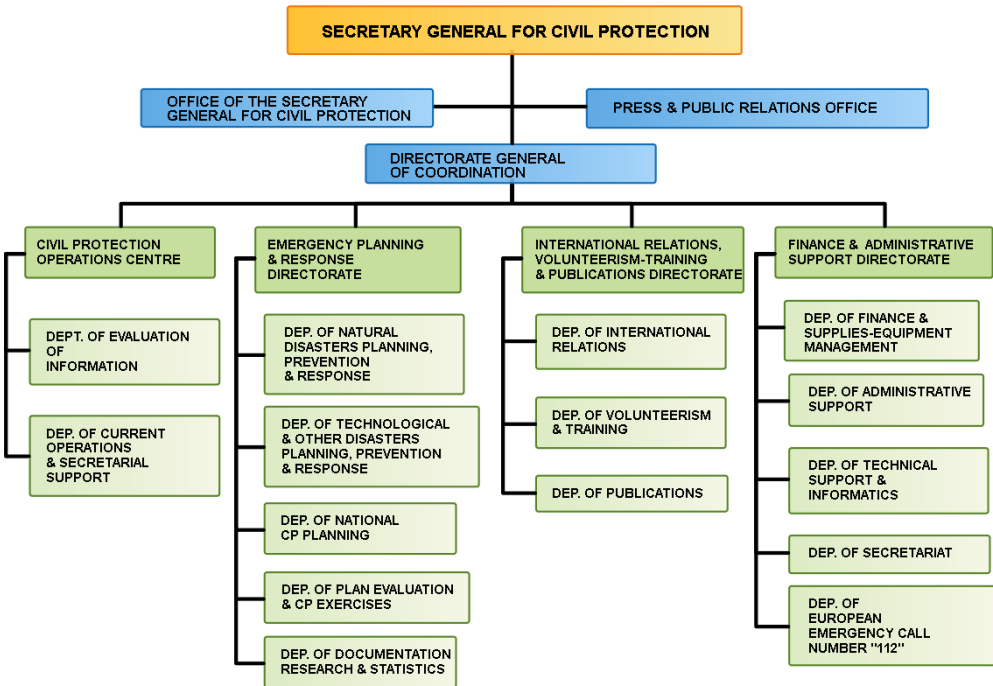
Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 1
Institution	General Directorate of Forests and Forest Environment (belongs to the Ministry of Environment and Energy)		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Athens, Greece
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	<p>The strategic objectives of the General Directorate of Forests and Forest Environment are (Article 27, Presidential Decree 132/2017):</p> <ul style="list-style-type: none"> a) Planning actions and securing financial instruments for the implementation of forestry policy; b) The protection of the country's forest ecosystems, public grasslands and phryganic lands, as well as public property against any danger and threat c) Protecting the forest environment and public agricultural property; d) Protecting forest biodiversity of species, ecosystems and landscapes; e) Taking measures for wildlife management and hunting policy; f) Coordinating and providing guidance on the implementation of infrastructure projects and works for forest management and forest ecosystems; development, protection and sustainable management of forests; g) Implementing forest reforestation policies and the restoration of degraded forest ecosystems; h) Taking appropriate measures for the adaptation of the country's forest ecosystems and public grasslands and phryganic lands to climate change and for their contribution to mitigating its impacts i) Ensuring the proper implementation and application of the guidelines and directives and more generally of the forestry policy developed by the General Directorate for Forests and Forest Environment, as well as the implementation of local programs and studies and the proper execution of forestry works by the forestry services of the Decentralized Administrations. <p>The General Directorate consists of the following Directorates:</p> <ul style="list-style-type: none"> 2.1 Directorate of Forest Policy Planning 2.2 Directorate of Forest Protection 2.3 Directorate of Forestry and Infrastructure 2.4 Directorate of Forests Management
Complementary information	<p>In this frame, the General Directorate for Forests and Forest Environment is responsible for issuing calls for the implementation on the Rural Development Programme measures related to Forest Fire Prevention, forest road network maintenance, etc. Additionally, it is responsible for evaluating and promoting forest fuel management projects to be funded by the Ministry's Green Fund, and the National Funds devoted to fire prevention.</p> <p>Also has the responsibility for the issuance of instructions and technical specifications for projects and works for the protection of forests and forest lands, and the preparation of programs to protect them from the risk of fires (Law 2612/1998, Law 3208/2003, Presidential Decree 402/1988, Joint Ministerial Decision 23111/2010, Presidential Decrees 24/2015, and 132/2017).</p>
Web link	http://www.ypeka.gr/Default.aspx?tabid=227&language=el-GR
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 2
Institution	General Directorate of Forests and Rural Affairs (belongs to the Decentralized Administration Authority of Crete)		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Crete, Greece
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	

	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The General Directorate of Forests and Rural Affairs of the Decentralized Administration Authority of Crete consists of the following six (6) Directorates:</p> <ol style="list-style-type: none"> 1. Directorate of Coordination & Supervision of Forests 2. Forest Directorate of Heraklion 3. Forest Directorate of Chania 4. Forest Directorate of Rethymnon 5. Forest Directorate of Lassithi, and 6. Directorate of Rural Affairs. <p>According to the nr.136/2010 Presidential Decree (Regulation protocol of the D.A.A.C.), Article 7C., the General Directorate is responsible for the planning and programming of the actions, as well as the coordination and supervision of the operation for all the official units that belong to the G.D., the safeguarding of their proper operation and the handling of the malfunction and of cases in their competence.</p> <p>The strategic objectives of the Forest Directorates on Crete, as described in Article 10B. of the Presidential Decree, are the forest development and the protection and sustainability of forests and forestland in general, the implementation of technical works and programmes, the monitoring and mapping of forests, land uses and land ownership. Among the Units that consist every Forest Service in Crete, there is the Department of Programming, Researching and Constructing forestry works and the Department of Protection, Administration and Management of forests.</p>		
Complementary information	<p>In this framework, the General Directorate of Forests and Rural Affairs is, through its subject Forest Services, responsible for the implementation of the Rural Development Programme measures related to forest fire prevention and recovery/rehabilitation, such as management of forest fuel, maintenance of forests roads and pathways, construction of water reservoirs, promotion of fire-resistant flora species as well as preservation of natural regeneration etc.</p>		
Web link	http://www.apdkritis.gov.gr/el/διοικητική-δομή		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_3
Institution	General Secretariat for Civil Protection		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Athens, Greece
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			

<p>Short description and main fuel management programs</p>	<p>The General Secretariat for Civil Protection (GSCP) has as its general mission (No. 1, Presidential Decree 151/2004):</p> <ul style="list-style-type: none"> • To study, plan, organize and coordinate action to prevent and respond to natural, technological and other disasters or emergencies, and to inform the public of these issues. • Preparing, mobilizing and coordinating the action of the country's civil protection potential and means of responding to any possible disasters in the context of existing risk-based planning. • Utilizing the available scientific data and information to mobilize the country's civil protection potential and means in view of the threat of disaster. • Coordination of the work and actions for disaster response, during the manifestation of phenomena, as well as of the work for repairing the damage caused. <h3>Organization Chart of GSCP</h3>  <pre> graph TD A[SECRETARY GENERAL FOR CIVIL PROTECTION] --> B[OFFICE OF THE SECRETARY GENERAL FOR CIVIL PROTECTION] A --> C[PRESS & PUBLIC RELATIONS OFFICE] A --> D[DIRECTORATE GENERAL OF COORDINATION] D --> E[CIVIL PROTECTION OPERATIONS CENTRE] D --> F[DEPT. OF EVALUATION OF INFORMATION] D --> G[DEPT. OF CURRENT OPERATIONS & SECRETARIAL SUPPORT] D --> H[EMERGENCY PLANNING & RESPONSE DIRECTORATE] D --> I[DEPT. OF NATURAL DISASTERS PLANNING, PREVENTION & RESPONSE] D --> J[DEPT. OF TECHNOLOGICAL & OTHER DISASTERS PLANNING, PREVENTION & RESPONSE] D --> K[DEPT. OF NATIONAL CP PLANNING] D --> L[DEPT. OF PLAN EVALUATION & CP EXERCISES] D --> M[DEPT. OF DOCUMENTATION RESEARCH & STATISTICS] D --> N[INTERNATIONAL RELATIONS, VOLUNTEERISM-TRAINING & PUBLICATIONS DIRECTORATE] D --> O[DEPT. OF INTERNATIONAL RELATIONS] D --> P[DEPT. OF VOLUNTEERISM & TRAINING] D --> Q[DEPT. OF PUBLICATIONS] D --> R[FINANCE & ADMINISTRATIVE SUPPORT DIRECTORATE] D --> S[DEPT. OF FINANCE & SUPPLIES-EQUIPMENT MANAGEMENT] D --> T[DEPT. OF ADMINISTRATIVE SUPPORT] D --> U[DEPT. OF TECHNICAL SUPPORT & INFORMATICS] D --> V[DEPT. OF SECRETARIAT] D --> W[DEPT. OF EUROPEAN EMERGENCY CALL NUMBER "112"] </pre>
<p>Complementary information</p>	<p>The General Secretariat for Civil Protection yearly issues directions on how to prepare for forest fires, including responsibilities and necessary actions, before the start of the fire season. It is also responsible for the distribution of funding for forest fire prevention to Municipalities (about 18 million €/year), but without the ability to control how the funds have been used</p>
<p>Web link</p>	<p>https://www.civilprotection.gr/el (in Greek) https://www.civilprotection.gr/en (in English (partial))</p>
<p>Contact</p>	<p>Foivos Theodorou, Director of National Emergency Planning and Response, 2, Evangelistrias str, GR-105 63 Athens, email: FTheodorou@gscp.gr</p>

Institutions involved in fuel management and fire risk management			
Basic information		ID INST_	4
Institution	Decentralized Administration of Attiki, Forest Directorate of Eastern Attiki, Local Forest Service of Lavrio	<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Attica region, District of Lavrio

General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The main objectives of the Local Forest Service department are:</p> <ul style="list-style-type: none"> a) The protection of the regional forest ecosystems, public grasslands and phryganic lands, as well as private owned forest land against any threat of deforestation; b) Protecting the local forest environment and public agricultural property; c) Protecting forest biodiversity of species, ecosystems and landscapes; d) Implementing measures for wildlife management and hunting policy; e) Responsibility and monitoring for the implementation of infrastructure projects and works for forest management and forest ecosystems; protection and sustainable management of forests; f) Implementing forest reforestation policies and the restoration of degraded forest ecosystems; g) Taking appropriate measures for the mitigation of forest fires effects h) Applying all preventing measures to decrease fire risk in most vulnerable forest ecotypes in the area of responsibility – Fuel management i) Forest mapping of burnt forest land 		
Complementary information	<p>Local Forest Service of Lavrio is responsible for implementing all issuing calls that stems from The General Directorate for Forests and Forest Environment and taking measures related to Forest Fire Prevention, forest road network maintenance, etc. Additionally, it is responsible for composing and revising the annual local forest plan related to forest fire prevention and applying for funding in order to carry out all needed actions to mitigate forest fires effects.</p>		
Web link	www.apdattikis.gr		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 5
Institution	Municipality of Rafina – Pikermi		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Attica, Greece
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			

Short description and main fuel management programs	<p>A) Forest Service is responsible for fuel management outside the city boundaries.</p> <p>B) The Municipality of Rafina – Pikermi is responsible for clearing public areas from fuel accumulation that exist in and at the border of the municipality.</p> <p>C) The Municipality of Rafina – Pikermi informs registered citizens - owners to clean their own property – land.</p> <p>D) Municipality also monitors resident’s response to cleaning.</p> <p>E) Municipality implements the legislative framework that already exists.</p>
Complementary information	<p>A) The Municipality of Rafina – Pikermi gets permission from the Forest Service to manage vegetation in strategic locations outside the city boundaries.</p> <p>B) The woody material from pruning and cutting forest vegetation management in public lands is made available for composting. Public interest companies (EMAK – ΕΔΣΝΑ) and/or private companies (legal entities of private and public law) are involved in this task.</p> <p>C) The Municipality also sends newsletters about its actions to all the relevant operational agencies.</p> <p>Implementation of risk reduction programs with the preventive removal of part of vegetation (cleaning works), around areas of special protection (buildings and facilities, camps, archaeological sites, groves, parks, etc.) and areas considered to be of high risk (crossing points of electricity transmission networks, fuel tanks, garbage dumps, etc.) is the responsibility of the entities to which the site belongs (Fire Ordinances 4/2012, 9/2000, 9A / 2005, Law 998/1979, Joint Ministerial Decision 12030 / Φ109.1 / 1999, Law3852 / 2010, No. 94 paragraph 1). These programs must be executed at the beginning of the fire season period.</p> <p>Specifically for the Municipalities, these projects concern as a priority:</p> <ul style="list-style-type: none"> • Carrying out preventive vegetation clearance programs in the area of special protection (groves, parks, camps, etc.) in their area of responsibility, • Removal of vegetation cleaning debris, executed for the same reasons as above by owners in residential areas and land plots (Fire Ordinance 4/2012, Law 3852/2010, no. 94 par.1), within their administrative limits, • Execution of vegetation treatment projects for fire prevention by the Municipalities on the suggestion and in cooperation with the local Forest Service offices, in wildland-urban interface areas, for the purpose of protection of their settlements. <p>It is noted that, pursuant to article 94 of Law 3852/2010 and Fire Ordinance 4/2012, Municipalities shall, in accordance with the applicable fire regulations, comply with the obligations of owners, legal entities, and users to clean land and other open spaces located within cities, towns and settlements, and within 100 meters of their boundaries, as well as the obligation for self-appointed cleaning by the Municipalities in case of non-compliance of those who bear the obligation (charging to them the corresponding cost).</p>
Web link	http://www.rafina-pikermi.gr
Contact	Not publishable

Institutions involved in fuel management and fire risk management			
Basic information			ID INST_ 6
Institution	Chios Voluntary Action Team - Omikron		<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Chios, Greece
General competences (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	

	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information			
Short description and main fuel management programs	<p>The Chios Voluntary Action Team – Omikron is based on Chios island; it operates across the entire island and potentially in the Prefecture of Northern Aegean. Omikron was created in 1999, developed an internal regulation and cooperated with Municipality of Omiroupolis under a memorandum of cooperation, until 2008. Since then, this Voluntary Team is quite active in wildfire suppression, in prevention (construction of fuel breaks, population awareness raising) as well as in restoration and reforestation activities (such as planting seedlings for reestablishing forest vegetation in desertified areas).</p> <p>Omikron promotes environmental protection, participates in educational programs and contributes significantly to the sustainable forest and fire management of Chios.</p>		
Complementary information	<p>The current team's form and charter was created in 2008 (March 31) and its registration number in the General Secretariat of Civil Protection Voluntary Organizations (VO's) Registry is 3/2009. It is funded by donations that come from its members, subsidies from the Municipality of Chios and sponsorships from legal entities of private law (Latsis foundation, Tsakos foundation and Limani foundation). Currently Omikron has 85 members.</p>		
Web link	www.omikron.org.gr and https://www.facebook.com/omadaomikron/		
Contact	Not publishable		

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 7
Institution	ΔΕΔΔΗΕ S.A., ΑΔΜΗΕ S.A., ΟΣΕ S.A. and ΔΕΣΦΑ (Electricity, Railway and Gas companies)			<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private
Level	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Greece	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>A) For ΔΕΔΔΗΕ S.A., which is responsible for the maintenance of the Electricity Distribution Network and ΑΔΜΗΕ S.A. which is responsible for the maintenance of the Electricity Transmission System, it is required to carry out programs concerning the pruning of trees in forested areas which are crossed by transmission lines, clearing areas below connection points and taking all measures necessary to prevent fires (Art. 8 of Joint Ministerial Decision 12030 / Φ109.1 / 1999, Law 4001/2011 - Government Gazette 179 / Α / 2011). These operations require the cooperation of ΔΕΔΔΗΕ S.A. and ΑΔΜΗΕ S.A with the respective local Forest Service offices, City Planning Authorities and Municipalities, within their competences.</p> <p>B) OSE S.A (the Railway Organization of Greece) is obliged to carry out preventive vegetation side cleaning programs in high risk areas crossed by railway lines, using its crews, as well as to do whatever else is necessary to prevent fires (Art. 24 Law 998/79, Art. 8 of Joint Ministerial Decision 12030 / Φ109.1 / 1999). Vegetation cleaning works require the cooperation of OSE SA with the local Forest Service offices. It is noted that the Hellenic Railway Rolling Stock Maintenance Company S.A. (ΕΕΣΣΤΥ S.A.) is now responsible for the maintenance of railway rolling stock (braking systems, etc.) in the context of forest fire prevention. (ΕΣΣΣΤΥ SA) (Law 4111/2013 Government Gazette 18 / Α / 2013).</p> <p>C) DESFA (the company responsible for transmission of gas) must inspect and clean the Ownership Restraint Zone (4 + 4 meters on either side of the pipeline), where required, from deep-rooted native shrubs and saplings upon request and authorization by the competent forestry authority.</p>
Complementary information	The implementation of risk reduction programs with preventive vegetation cleaning projects around installations when in or near forests and forests is a safety obligation for their administrations.
Web link	
Contact	Not publishable

Institutions involved in fuel management and fire risk management					
Basic information				ID INST_	8
Institution	Decentralized Administration (DA)			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Seven DAs, each covering the area of 1-3 Regions		
General competences (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery		
Description and complementary information					

Short description and main fuel management programs	<p>There are 7 Decentralized Administrations across Greece, as follows: 1. Attica, 2. Macedonia-Thrace, 3. Epirus-Western Macedonia, 4. Thessalia-Central Greece, 5. Peloponnese-Western Greece & Ionian islands, 6. Aegean, and 7. Crete. Each Decentralized Administration is led by a “Coordinator” who is appointed or dismissed by a Cabinet decision upon request of the Greek Minister of Interior, and is therefore considered the senior representative of the national government in the regions. The DAs enjoy both administrative and financial autonomy and exercise devolved state powers in urban planning, environmental and energy policy, forestry (including forest protection), civil protection, migration and citizenship. These tasks belong to state affairs which for constitutional reasons cannot be exercised by elected officials. The role of the ADs is to apply, monitor and audit the decisions made by the State. Beyond that, they are tasked with supervising the first and second-level self-governing bodies: the municipalities and regions.</p> <p>The organizational chart of each DA includes a General Directorate of Forests and Rural Affairs, which oversees a varying number of “Directions of Forests”. There is one Direction of Forests in each prefecture. Each of these Directions, depending on the area of the prefecture, the area of forests in it, and other management considerations, oversees up to 4 local Forest Service Offices (Dasarheio) which are the operational forestry units. When there is no Dasarheio under it, the Direction of Forests has itself the operational role. When there are 2-4 Dasarheia, the Direction has an overseeing and coordinating role.</p>
Complementary information	<p>The ADs were established through Law 3852/2010 and started operating on 1-1-2011.</p> <p>In the 7 DAs, there are 54 Directions of Forests (equal to the number of prefectures). 23 of the Directions of Forests do not have a Dasarheio under them. The rest of the Directions have 2-4 dasarheia each. The total number of Dasarheia in these 23 Directions is 80. Thus the total number of operational “field” units is 80+23=103.</p>
Web link	<p>As examples: Decentralized Administration of Peloponnese, Western Greece & Ionian islands: http://www.apd-depin.gov.gr/index.php/2018-11-18-00-35-23/organization-chart-english Decentralized Administration of Attica: https://www.apdattikis.gov.gr/</p>
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information				ID INST_ 9
Institution	Directorate of Reforestation - Decentralized Administration of Attica			<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Athens, Attica, Greece	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>The Directorate of Reforestation - Decentralized Administration of Attica is based in Athens, in the Region of Attica, Greece.</p> <p>The Directorate is mainly involved in studies and restoration projects of damaged forest ecosystems, either after forest fires or after other natural disasters.</p> <p>The Reforestation programs, though tree planting, are at the core of the Directorate's efforts to protect watersheds on Forest System lands of Attica and on adjacent lands that have been affected by natural disturbance events, such as wildfire, climate change, and insect and disease infestations. Historically, restoring forested ecosystems following either unplanned catastrophic events or from planned timber harvests is a top priority for national forest management. Reforestation is a silvicultural treatment used to re-establish forest cover, thus initiating the restoration of forest function. Prompt reforestation allows for the accelerated development of forest structure, species composition, and canopy that provides many benefits including wildlife habitat, clean and abundant water, carbon sequestration, forest wood products for consumers, forested recreation opportunities, and maintenance of soil productivity through soil erosion reduction. Reforestation presents unique opportunities to address emerging issues associated with climate change by conserving and managing genetic diversity to adapt to a changing climate, as well as sequestering carbon to counter greenhouse gas emissions.</p> <p>The public Forest Service nurseries produce fire resistant plants (conifers, broadleaves) and multiple plant species for the recovery and development of mixed forests, which are more stable against forest fires.</p>
Complementary information	The Directorate operates across the entire Region of Attica. Currently the Directorate has 14 employers.
Web link	https://www.apdattikis.gov.gr/
Contact	Not publishable

Institutions involved in fuel management and fire risk management				
Basic information			ID INST_	10
Institution	Directorate of Forests of Dodecanese Belongs to the Decentralized Administration Authority of Aegean		<input checked="" type="checkbox"/> Public <input type="checkbox"/> Private	
Level	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Rhodes, Greece	
General competences (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				

Short description and main fuel management programs	<p>According to the No 143/2010 Presidential Decree (Regulation Protocol of DAAA) the objectives of the Forest Directorate of Dodecanese, as described in Article 10B, are the forest development, the protection and sustainability of forests, forestland in general and wild fauna, the application of CITES Convention in South Aegean Region, the implementation of technical works and programs, the monitoring and mapping of forests, land uses and land ownership.</p> <p>Among the Units that consist the Forest Service of Dodecanese, the Department of Programming and Research is responsible for collecting and processing data for the preparation of annual and multiannual plans and programs for forest development of the county, for their approval, for the preparation of specific studies of all types of forestry projects and for the preparation of logging boards.</p> <p>The Department of Constructing forestry works is responsible, in particular, for monitoring and implementing the program of all forestry projects, checking the exact compliance and implementation of approved management studies.</p> <p>The Department of Protection, Administration and Management of forests which is responsible in particular for the management, operation and administration of public forests and forestlands, forestry surveillance of private forests, the verification of management studies and the disposal of forest products.</p>
Complementary information	<p>In this framework, the Directorate of Forests of Dodecanese is responsible for the study and execution of the Rural Development Program measures related to forest fire prevention and recovery/rehabilitation, such as management of forest fuel, maintenance of forests roads and pathways, construction of water reservoirs, promotion of fire-resistant flora species as well as preservation of natural regeneration etc.</p> <p>Furthermore, according to the article 175 of Law 4662/2020 "National Crisis Management and Risk Management Mechanism, restructuring of the General Secretariat for Civil Protection, upgrading of the civil protection volunteering system, reorganization of the Fire Brigade and other provisions." (Government Gazette A 27 / 7.2.2020) and the relevant Ministerial Regulatory Decision No. 181752/2052/5-2-2019 "Arrangement of cooperation issues between the Fire Department and the Forest Service at central and regional level" (Government Gazette B 1525 / 7.5.2019), "Arrangement of cooperation issues between the Fire Department and the Forest Service at central and regional level" Forest Services are responsible for providing support to the Fire Departments and ensuring immediate assistance in the context of their responsibilities in dealing with forest fires.</p>
Web link	http://www.apdaigaiou.gov.gr/el/διοικητική-δομή
Contact	Not publishable

Annex 6. Initiatives collected

Initiatives and smart solutions towards fire resilient landscapes								
ID	Initiatives	Classes						
		AP	PP			PE	RE	RC
			_Fp	_La	_Sp			
1	Training Centre of Toscana	X	X			X	X	
2	LIFE Granatha	X		X				
3	LIFE Demogest	X	X					
4	Fire flocks			X	X			
5	LIFE Montserrat	X		X				
6	Assessment of biomass availability in the municipality of Calonge		X					
7	GEPRIF Project	X					X	X
8	Promobiomasse Project		X					
9	LIFE Pinassa	X						
10	Vallès Forests	X	X					
11	LIFE Elia-Art	X		X				
12	Cabra serrana nos Baldios da Malcata	X		X		X		
13	Shepherds' School	X		X	X			
14	Open2preserve	X		X	X	X		
15	SILVPAST			X	X			
16	Forest Management – ACHLI	X		X	X	X		X
17	Reserva Faia Brava	X		X	X	X		X
18	Firefighting training Center of Piemonte Region	X				X	X	
19	Grazing program for fire hazard abatement through the “Landa Carsica” business network	X		X	X	X		
20	Biomass production and fire hazard reduction in the Union of Municipalities of Pratomagno	X	X			X		
21	New Business Models for innovating the cork sector and contrasting cork oak woodland abandonment	X	X			X		
22	Alberapastur Project			X	X			
23	Quality-Suber		X					
24	Sustainable Forest Management Orientations for Catalonia (ORGEST)	X						
25	Action areas enlargement of large fires prevention plan of Matadepera municipality	X		X		X	X	
26	Priority Protection Perimeters (PPP)	X		X		X	X	
27	Rebanhos da Serra do Açor-Rabadão	X		X	X	X		X
28	Landscape Fire Project	X		X	X	X		X

29	Resilient Forests Project	X	X	X	X	X		X
30	LIFETEC Project	X				X		
31	REFOREST Project	X						X

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID INit_ 1
Initiative	Fire Management training centre of the Toscana Region			
Promoter	Regione Toscana / D.R.E.am Italia			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Toscana, Italy	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Italian, English (main results)			
Short description	<p>The training centre of the Regione Toscana was created in 1991 with the aim to train the personnel of the Regione Toscana in the different sectors of fire management. In particular, in the last 10 years several fuel management training modules have been developed (e.g. fuel break design, prescribed burning, preventive silviculture). Since the centre is located in a high fire risk area and it is surrounded by very flammable <i>Pinus pinaster</i> stands, the training centre implemented the smart solution of planning, design and carry out fuel management interventions to protect the centre by using the training sessions programmed yearly to train personnel of the Regione Toscana. Treatments such as mechanical mastication, thinning, prescribed burning are regularly carried out on planned areas (e.g. at the WUI with the centre and in fuel breaks in the area) within the frame of training courses on fuel management, use of chain saw, use of fire.</p>			
Complementary information	<p>Free access publication (in Italian and English): <i>PIANO DI ADEGUAMENTO E MANUTENZIONE DEI VIALI PARAFUOCO CON USO DI FUOCO PRESCRITTO</i> (Enhancement and maintenance plan of forest firebreaks by prescribed burning)</p> <p>http://www.dream-italia.it/ambiti/antincendio-boschivo-e-formazione/fuoco-prescritto/piano-di-adequamento-e-manutenzione-dei-viali-parafuoco-con-uso-di-fuoco-prescritto/</p>			
Web link	http://www.regione.toscana.it/-/centro-regionale-per-l-addestramento-la-pineta-di-tocchi			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID INit_ 2
Initiative	Life Granatha "GRowing AviaN in Apennine's Tuscany HeathlAndS" (Life_15_NAT/IT/000837)			
Promoter	Unione dei Comuni del Pratomagno (Italy ID_Inst 17) / The EU Life+ Program			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Toscana, Italy	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input checked="" type="checkbox"/> Video / Media resource	
Available languages	Italian, English (main results)			
Short description	<p>LIFE+GRANATHA is a European LIFE+project with a duration of five years which aims to reduce the loss of suitable habitat for target birds (Directive 2009/147/EC) in the Pratomagno area, Toscana Region, Italy. Conservation interventions include mechanical cutting and prescribed burning. Since the area is vulnerable to large forest fires, interventions to renew the heathlands (and consequently decrease fire hazard) are planned integrating a fire risk reduction approach. The smart solution consists in creating a value chain to produce and commercialize organic/biological brooms made of <i>Ericaceae</i> by using vegetation residues cut in fire prevention areas. Meanwhile, prescribed burning interventions are integrated in the training program to the use of fire of the Toscana Region. The project aims raising awareness in the general public of the role of nature conservation in fire management and the conservation of agricultural landscapes.</p>			
Complementary information	<p>Free access publication (in Italian): <i>Piano degli interventi di fuoco prescritto del LIFE Granatha per la prevenzione degli incendi e la gestione conservativa delle brughiere del Pratomagno</i> (Prescribed burning Plan of the Life Granatha Project to prevent wildfires and maintain heathlands in the Pratomagno)</p> <p>https://www.lifegrantha.eu/wp-content/uploads/2018/03/Piano_Prescritto_Pratomagno_def.pdf</p>			
Web link	https://www.lifegrantha.eu/			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes			
Basic information			ID INit_ 3
Initiative	LIFE+Integration cost-effectiveness of the prevention fires in the planning and forest management (LIFE+DEMORGEST) (LIFE12_ENV_ES_000730)		
Promoter	The Forest Ownership Centre (Catalonia ID_Inst 2) / The EU LIFE+program		

Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU		Place	Catalonia, Spain
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Catalan, Spanish, English (main results)			
Short description	LIFE+DEMORGEST is a European LIFE+project with a duration of five years which aims to reduce the vulnerability of the forests of Catalonia to large forest fires (GIFs), facilitating the adoption of new models of multifunctional forest management (ORGEST models) that include the production of various goods and services to promote the prevention of GIFs; and which raise awareness in the general public of the role of forest management in fire fighting and the conservation of agricultural landscapes.			
Complementary information	Free access publication (in Catalan): <i>Les Orientacions de Gestió Forestal Sostenible de Catalunya. Integració del risc de grans incendis forestals (GIF) en les ORGEST</i> (The Guidelines for Sustainable Forest Management of Catalonia. Integration of the risk of large forest fires (GIF) in ORGEST) http://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=home.showFile&rep=file&fil=DEMORGEST_risk-incendis_leaflet_ES.pdf			
Web link	http://cpf.gencat.cat/en/cpf_03_linies_actuacio/cpf_transferencia_coneixement/cpf_projectes_europeus/cpf_life_demorgest/			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	4
Initiative	Ramats de foc (Fire flocks)			
Promoter	Pau Costa Foundation (Catalonia ID_Inst 11)			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU		Place	Girona Province, Catalonia
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		

	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	English, Catalan and Spanish		
Short description	<p>Ramats de Foc brings together all public and private agents interested in the continuity of silvopastoralism, by aligning their various needs, and articulating a production and consumption chain of food products from herds with the added value of decreasing fire risk in woodlands with a strategic role in the propagation of wildfires (as determined by Firefighters of Catalonia and the Department of Agriculture).</p> <p>The added value of this initiative is to strength the links between wildfire management services, farmers and local butchers and restaurants. The initiative works in adding value to the products of the participating farmers, through a label that certifies the herds' fire risk management tasks. Customers will thereby know that eating Ramats de Foc products delivers societal benefits; it will keep alive local extensive livestock farming and preserve forests.</p>		
Complementary information			
Web link	https://www.ramatsdefoc.org/en/		
Contact	Not publishable		

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	5
Initiative	LIFE Monserrat. Integrated silvopastoral management plan: An innovative tool to preserve biodiversity and prevent wildfires (LIFE13 BIO/ES/000094)			
Promoter	Province authority of Barcelona (Catalonia ID_Inst 9)			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Barcelona province	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Catalan, Spanish, English			

Short description	<p>LIFE Montserrat is a European Life+project with a duration of 4 years. The main objectives of the project are (1) the development of ecosystem-based measures to increase resilience and stability of forests against fires; (2) the contribution to biodiversity conservation and improvement in the Montserrat area, with habitats and species of high conservation value included in the Birds and Habitats Directives; and (3) biodiversity conservation by increasing connectivity through the creation of a mosaic of scrub, natural grasslands and forests that will link two Natura 2000 sites.</p> <p>The project presents the grazing as an alternative of wildfire prevention. The capacity of livestock to effectively control shrub growth is supported by scientific evidence so targeted grazing could be expected to successfully reduce fuel loads.</p>
Complementary information	<ul style="list-style-type: none"> - Press (Spanish): https://www.efeagro.com/noticia/rebanos-ovejas-vacas-limpieza/?utm_source=rss&utm_medium=rss&utm_campaign=rebanos-ovejas-vacas-limpieza - Layman's Report (English): https://lifemontserrat.eu/wp-content/uploads/2019/07/00-Layman-Report-ENG-DIGITAL.pdf - Project Newsletter (English): https://us11.campaign-archive.com/?u=fda7d33c9b960cb7485e98833&id=fa099af2cc&e=a98aa3e0d6 - Project presentation video (English): https://www.youtube.com/watch?v=EQg70IOIAEg&feature=youtu.be
Web link	https://lifemontserrat.eu/en/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	6
Initiative	Assessment of biomass availability in the municipality of Calonge			
Promoter	Area of Energy Efficiency and Environment of the City of Calonge			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Municipality of Calonge, Catalonia	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice <input type="checkbox"/> Field reference guide / training material			
	<input type="checkbox"/> Mobil app. / portal web		<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Catalan			

Short description	<p>Forest management practices assessment focused on forest biomass production taking into account the reduction of fire risk in Calonge, Spain. The objective is to assess the biomass availability to supply the heating network of local public equipments.</p> <p>The objective of the initiative is the assessment of forest areas where there is surplus of biomass available for production of heating of the district. This assessment is based on accessibility, the growth of the forest mass and the reduction of the fire risk, in order to make a rational and sustainable use that does not endanger the resource and perpetuate them over time.</p> <p>Forest managers, land planners, forestry companies, local fire prevention and preparedness agents (ADF), land owners, and elects are involved.</p>
Complementary information	http://netriskwork.ctfc.cat/wp-content/uploads/2017/07/Assessment-biomas-availability.pdf
Web link	
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID Init_	7
Initiative	GEPRIF project			
Promoter	Consortium: Lourizán Forest Research Centre. Xunta de Galicia (CIF); National Institute for Agricultural Research (INIA); Wildfire Defense Laboratory. University of Córdoba (LABIF-UCO); University of Santiago de Compostela (USC); University of Castilla-La Mancha (UCLM); Forest Solutions for the future (AGRESTA)			
Scope	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Spain	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input checked="" type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Spanish			

Short description	<p>The project has generated scientific and technical information regarding fuel management, actions and opportunities of extinction activities, as well as post-fire recovery processes, within the framework of sustainable forest management, aimed at achieving more efficient protection and defense of the forest landscape.</p> <p>The main objectives are (1) evaluate in an integrated manner the preventive treatments of forest fuels to reduce the severity of the fire, based on their effectiveness, longevity and ecological effects on soil and vegetation; (2) predict the potential severity of wildfires and the effects of preventive treatments, to define priority areas of action, both preventive and post-fire rehabilitation; (3) assess the corrective measures of post-fire forest hydrological restoration and testing of new biodegradable materials for the reduction of post-fire erosion risk and; (4) evaluate the economic efficiency of prevention, extinction and rehabilitation activities, among others.</p>
Complementary information	<p>Project products related with:</p> <ul style="list-style-type: none"> - Prevention: http://proyectogeprif.es/prevencion/ - Extinction: http://proyectogeprif.es/extincion/ - Recovery: http://proyectogeprif.es/restauracion/ - Economy: http://proyectogeprif.es/economia/
Web link	http://proyectogeprif.es/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	8
Initiative	PROMOBIOMASSE project: Networking for the development of an integrated model for sustainable forest biomass management in a short-circuit, applicable to mountain areas of the SUDOE territory			
Promoter	Navarra de Suelo y Vivienda, SA (NASUVINSA); Agencia Extremeña de la Energía (AGENEX); Centre Tecnològic Forestal de Catalunya (CTFC); Communauté de Communes du Plateau de Lannemezan (CCPL); Association des Communes Forestières des Pyrénées Atlantiques (COFOR64); Agência Regional de Energia e Ambiente do Interior (ENERAREA)			
Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU	Place	South-west of Europe (France, Spain and Portugal)	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness		<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice		<input checked="" type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web		<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Spanish, Portuguese, English and French			

Short description	<p>Promobiomasse project is a European Interreg Sudoe project, that aims to promote the forest biomass energy market in the SUDOE territory (southwestern Europe), by developing a supply and demand management model that applies the “short circuit” concept in order to resolve the current problems: destructuring of supply; forest ownership divided into small holdings; inefficient exploitation methods; unknown and insufficient demand.</p> <p>The main objective shall be to develop, test and validate an integrated “short circuit” biomass market management model that can be extended to the great majority of territories with forest resources in the southwestern of Europe.</p> <p>The promotion of biomass is directly related with the “exploitation” of the forest, and that is, with the reduction of wildfire risk.</p>
Complementary information	Selected good practices related with the project: https://promobiomasse.eu/en/good-practices/
Web link	https://promobiomasse.eu/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	9
Initiative	LIFE PINASSA: Sustainable management for conservation of Black pine forests in Catalunya (LIFE NAT13/NAT/ES/000724)			
Promoter	Forest Ownership Centre (Catalonia ID_Inst 2), Forest Science and Technology Centre of Catalonia (CTFC), Catalunya-La Pedrera Foundation, Ministry of Home Affairs and Ministry of Agriculture of the Government of Catalonia.			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Spanish, Catalan and English			

Short description	<p>Life Pinassa is project is a European Life + project. The main objective of the project is the conservation of black pine forests (<i>Pinus nigra</i>) in the face of the progressive regression of the habitat in the Natura 2000 Network in Catalonia, based on the introduction of measures that improve their current state in the mid and long-term future.</p> <p>One of the specifics objectives of the project is to reduce de vulnerability of <i>Pinus nigra</i> structures front large forest fires. In that sense, a specific action “Strategic silvicultural actions for the prevention of great forest fires in <i>Pinus nigra</i> forests” is on the action plan of the project. The specific objectives of this action are (1) reduce the risk of great forest fires in black pine habitats by taking action at strategic management points, considered as areas where this habitat has favorable ecological conditions as well as special interest, whether it be for the presence of lone stands or for mature structures of biodiversity interest; and (2) obtain black pine forest structures that guarantee ideal fire behavior for extinction as well as control, and which avoid the generation of high intensity fires that propagate in the canopy.</p>
Complementary information	<ul style="list-style-type: none"> - Layman’s Report of the project: http://lifepinassa.eu/wp-content/uploads/2018/06/Layman_Pinassa.pdf - Publications of the project: “The role of fire in the conservation of black pine habitat”: http://lifepinassa.eu/docs/Manual_foc_ENG.pdf
Web link	http://lifepinassa.eu/?lang=en
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID Init_	10
Initiative	Bosc del Vallès (Vallès Forests)			
Promoter	Sub-Regional Authority of Vallès Occidental territory (Consell Comarcal del Vallès Occidental)			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Vallès Occidental, Catalonia	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Catalan			

Short description	<p>This project is an innovative initiative that brings a new approach to the wildfire prevention. It is based on the structuring of biomass buying-selling market, to achieve a good forest management, protecting from wildfires at the same time that brings an economic revitalization of the forest sector and the generation of proximity energy.</p> <p>This is an innovative project in Catalonia because works with wildfire prevention through biomass valorization, and also because the Sub-regional public authority has created its own competence and a Sub-regional Service of Biomass. The energy created through this biomass serves to provide energy to the different public equipments.</p> <p>Different actors are involved in: Sub-regional authority, municipalities, Government of Catalonia, Province Authority of Barcelona, Forest Defence Association (ADF), forest owners, potential big consumers of biomass (hospital, university, etc.), forest research centres, etc.</p>
Complementary information	<p>Report of the project (CAT):</p> <p>http://www.ccvoc.cat/fitxer/4647/LLIBRET%20BOSCOS%20DEL%20VALL%C3%88S.pdf</p>
Web link	http://www.ccvoc.cat/consell-comarcal/serveis/area-de-territori-i-cooperacio-local/boscots-del-valles
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	11
Initiative	Life Elia-Art – creating green corridors under overhead lines			
Promoter	Rede Energetica Nacional (Portugal ID_Inst 5)			
Scope	<input type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input checked="" type="checkbox"/> EU	Place	Belgium, France, Portugal	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	French, English, Dutch			
Short description	<p>LIFE Elia-RTE is a 6,5 years project of 3M€ co financed by :</p> <ul style="list-style-type: none"> - the European Union (LIFE programme), - Elia (Belgian Transmission System Operator), - RTE (French Transmission System Operator), - the Walloon Region. <p>Started in September 2011, this project is led by a team of 7 people spread in two NGOs : Solon asbl and CARAH.</p> <p>The aim of the project is to create green corridors under overhead electrical lines in wooded areas in Belgium and France. Various innovative actions will take place in order to enhance biodiversity and to raise people awareness concerning natural habitats and species linked to this linear context.</p>			

Complementary information	Publications: B n°1 - Vegetation mapping; B n°2 - Cost benefit analysis; B n°3 – Grazing and mowing; B n°4 - Forest edges and orchards; B n°5 – Ponds and invasive species; B n°6 – Restoring natural habitats; B n°7 - Biological indicators; B n°8 - Local partnerships; B n°9 - Negotiating and agreements; B n°10 – Toolbox; Vade-mecum Best practices for Transmission System Operators; Vade-mecum Best practices for Landowners and Land managers http://www.life-elia.eu/en/Brochure-n-2-Cost-benefit-analysis-118
Web link	http://www.life-elia.eu/en/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID Init_	12
Initiative	Cabra serrana nos Baldios da Malcata			
Promoter	Junta de Freguesia da Malcata – Concelho do Sabugal			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Portuguese			
Short description	This is an approved project from PDR2020 where the Baldios of Malcata will introduce goats to manage fuel in the baldio area. The first motivation is the preservation of forest resources, investing in the management of forest fuel in the primary network, in addition to the valorisation of endogenous products (goat and cheese). Within two years, there may be a herd of 211 goats in Malcata for a grazing area of 187 hectares (corresponding to Baldios area).			
Complementary information	There are several newspapers announcing the initiative. https://www.facebook.com/permalink.php?story_fbid=805510859862351&id=428184424261665&_tn_ =K-R https://www.ointerior.pt/regiao/junta-da-malcata-avanca-com-cabras-sapadoras/ https://www.confagri.pt/freguesia-da-malcata-no-sabugal-promove-projeto-cabras-sapadoras/			
Web link	http://www.malcata.org/index.php/noticias			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes					
Basic information				ID INit_	13
Initiative	Shepherds' Schools – Escola de Pastores				
Promoter	InovCluster – Associação do Cluster Agroindustrial do Centro				
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional	<input checked="" type="checkbox"/> National	<input type="checkbox"/> EU	Place	Portugal
General focus (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery		
Description and complementary information					
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material			
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource		
Available languages	Portuguese				
Short description	<p>The creation of the Shepherds' Schools is part of the project “Center Region Cheese Row Enhancement Program”, a candidate for CENTRO 2020, whose objective is to make an important contribution to the economic enhancement of the region's PDO cheese sector. Center. The general objective of the creation of the Shepherds' Schools is the development of a training program that will not only strengthen this profession, but also promote innovation and knowledge within the Protected designation of origin region and the appreciation and increase of competitiveness within it, as it is one of the main endogenous products of the territory and with greater growth potential.</p> <p>It is intended, therefore, that at the end of their course, the trainee acquires the ability to produce as optimally as possible, according to criteria of animal welfare, occupational risk prevention, environmental protection and food safety.</p>				
Complementary information					
Web link	http://www.malcata.org/index.php/noticias				
Contact	Not publishable				

Initiatives and smart solutions towards fire resilient landscapes					
Basic information				ID INit_	14
Initiative	Open2preserve				
Promoter	Interreg SUDOE – Coord. University of Navarra (SPAIN) participation of several Portuguese institutions.				
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional	<input checked="" type="checkbox"/> National	<input checked="" type="checkbox"/> EU	Place	Portugal/Spain/France
General focus (mark as much as necessary)					

Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Portuguese/Spanish/english		
Short description	OPEN2PRESERVE provides a sustainable economic management system to reduce fire risks within Southwestern Europe. Thus, the project contributes to the preservation of ecosystems and to the ecological quality of open mountain spaces with high environmental value. In this sense, the Project is built upon the combination of technical fires and pastoralism and provides training to forest workers, solutions adapted to the territorial features and jobs.		
Complementary information			
Web link	https://open2preserve.eu/en/		
Contact	Not publishable		

Initiatives and smart solutions towards fire resilient landscapes			
Basic information			ID INit_ 15
Initiative	SILVPAST: Cost-efficient implementation of silvo-pastoral mosaic systems of black oak.		
Promoter	TERRAPRIMA		
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal
General focus (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Portuguese and English		

Short description	<p>The Operational Group SILVPAST (GO SILVPAST) on the “Cost-efficient implementation of silvo-pastoral mosaics of <i>Quercus pyrenaica</i>” will test and develop a method for the implementation of silvo-pastoral mosaics, using remote sensing approaches, that supports agricultural and forestry activity in areas of Pyrenean oak, which typically have low agricultural value.</p> <p>GO SILVPAST targets two levels of intervention. The farm or property level, where the main actors are the forest owners and managers, and the level of territorial management where the main actors are the policy makers, from the local to the national level.</p> <p>The silvo-pastoral model being proposed, as well as the planning and management tools that will be developed, aim to address the current lack of cost-efficient management alternatives in these regions and to promote economic viability through greater multifunctionality and resilience, and lower management costs.</p> <p>The main objectives are:</p> <ul style="list-style-type: none"> • Test a cost-efficient production process that enables silvo-pastoral activity and guarantees its long-term sustainability • Deliver methods and tools for the replication of the proposed process • Support decision-making, and the evaluation and design of agri-environmental policy • Promote the restoration of Pyrenean oak forest • Contribute to control the risk of fire • Strengthen territorial resilience to environmental and socio-economic changes
Complementary information	
Web link	https://www.terraprima.pt/en/projecto/23
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	16
Initiative	Forest Management - ACHLI			
Promoter	Associação de Conservação do Habitat do Lobo Ibérico			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Portuguese, Spanish and English			

Short description	<p>The primary goal of our “forest management” project is to establish, improve and manage forest lands, since these are an important component for wolf conservation and for its natural prey.</p> <p>Forest management goals:</p> <ul style="list-style-type: none"> Increase vegetation biodiversity; Increase forest land availability; Conserve and recover autochthonous forest stands; Protect against soil erosion; Encourage maintenance and development of small woodlands; Preserve waterways and riparian vegetation; Guarantee habitat mosaics; Create refuge areas; Reduce forest fire risks <p>These goals are fundamental to create well adapted forest lands to local ecological conditions, increasing in the medium-term, the availability of favourable habitat for wolves and their natural prey.</p>
Complementary information	
Web link	https://www.loboiberico.org/en/projecto/23/40
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes					
Basic information				ID INit_	17
Initiative	Reserva Faia Brava – Grazing fire brigades				
Promoter	Associação Transumância e Natureza				
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Portugal		
General focus (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development			
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery		
Description and complementary information					
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material			
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource		
Available languages	Portuguese /english				

Short description	<p>Nature is the most important value in the Faia Brava Reserve. There are over 1000 hectares exclusively for nature conservation, with actions that focus on ecological restoration through habitat enhancement, increased food availability of the most endangered species and forest management.</p> <p>Grazing fire brigades:</p> <p>By bringing back grazing – this time not with livestock but with (semi-) wild herbivores such as wild horses and Tauros – we can significantly reduce the risk of fire in the Western Iberia rewilding area. Reintroducing such herbivores will also improve conditions for populations of roe deer and Iberian ibex.</p> <p>A large part of the area is grazed by a herd of Garanno mountain horses and Maronesa cattle. They ensure variation in vegetation and keep the landscape open by grazing. This leads to the creation of more diverse mosaic landscapes and these open spaces act as effective firebreaks.</p> <p>These mosaic landscapes have a huge biodiversity and also help boost populations of species such as rabbit and red-legged partridge, which in turn increases the availability of prey for predators such as the Iberian lynx and Bonelli's eagle, and scavengers such as vultures.</p>
Complementary information	
Web link	https://www.atnatureza.org/en/faia-brava-reserve#grazing-fire-brigades-2
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID INit_ 18
Name	Firefighting training center of the Piemonte Region			
Promoter	Regione Piemonte / FORMONT / Volunteers fire brigades of the Piemonte Region			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Piemonte, Italy	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input checked="" type="checkbox"/> Video / Media resource	
Available languages	Italian, English (main results)			
Short description	The training center of fire fighters of the Regione Piemonte was created in 2014 with the aim to train volunteer fire brigades in fire fighting and prescribed burning techniques. In the last year the training program uses a strategic fuel management site close to the center to train fire personnel to prescribed burning techniques. The strategic area divide two alpine valleys characterized by relatively flammable mixed broadleaved-coniferous forests, and consists in a fuel break 200 m large and 1.5 km long. The area is also grazed, consequently prescribed burning treatments implemented for training achieve multiple goals related to active fire prevention and grazing management.			
Complementary information	Free access video (in Italian): Training sessions on prescribed burning for fire hazard reduction carried out by the Fire Fighting Volunteer Corp of the Piemonte Region https://www.youtube.com/watch?v=hKF2jetdx7s https://www.youtube.com/watch?v=VtMgH76kGjU			
Web link	http://www.formont.it/peveragno.php ; http://www.corpoaipiemonte.it/?page=44556&c=44582&s=1651			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID INit_ 19
Name	Grazing program for fire hazard abatement through the “Landa Carsica” business network			
Promoter	Friuli Venezia Giulia Region			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Monfalcone, Friuli Venezia Giulia, Italy (first experience, then replicated in other places)	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing	

		<input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Italian		
Short description	<p>In the Carso area of the Friuli Venezia Giulia, North East Italy, a grazing program started in 2013 to reduce fire hazard in high fire risk areas. The program aims at reducing fuel load by grazing in strategic areas while sustaining intervention by activating a value chain of meat products. The program includes the temporary use of private lands for 5 years after notification to land owners if these areas fall within the area identified as strategic for fire hazard abatement (Regional Law 17/2019). Private lands are committed to local farmers. However, the owners continue keep their rights on them. A business network called "Landa Carsica" between local farmers was created to reach a consistent company size in order to gain access to RDP Measures. In this way, the economical sustainability of the program is guaranteed by gaining access to the RDP Measures 4.4.1. "Investimenti non produttivi connessi con la conservazione e la tutela dell'ambiente" to restore the "landa carsica" habitat and landscape, 11.1.1. "Conversione all'agricoltura biologica" to adopt the organic farming method and 10.1.8. "Razze animali in via di estinzione" to preserve the "grigio alpina" cattle breed whose population is facing a dramatic decrease.</p>		
Complementary information	<p>Soon after, a second initiative started on the fire-exposed site of "Monte Sabotino", province of Gorizia, Friuli Venezia Giulia. Abandoned lands were committed to a non-profit association which raises sheeps for didactic ends. RDP Measure 4.4.1. "Investimenti non produttivi connessi con la conservazione e la tutela dell'ambiente" was activated to fund the scrub clearing and restore the productivity of the pastures.</p>		
Web link	<p>RDP Measure: http://www.regione.fvg.it/rafvvg/cms/RAFVG/economia-imprese/agricoltura-foreste/psr-programma-sviluppo-rurale/news/260.html Journal paper: https://www.fondazioneiseni.it/wp-content/uploads/2016/06/LIBERO_19-02-2017.pdf</p>		
Contact	Not publishable		

Initiatives and smart solutions towards fire resilient landscapes			
Basic information			ID Init_ 20
Name	Biomass production and fire hazard reduction in the Union of Municipalities of Pratomagno		
Promoter	Union of Municipalities of Pratomagno (Italy ID_Inst 17)		
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Toscana, Italy
General focus (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	

	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Italian		
Short description	The Unione Comuni of Pratomagno, Toscana Region, installed in 2012 a biomass central that furnish the heating system of a number of buildings in the Municipality of Loro Ciuffenna, including schools and the Unione Comuni operative center. The biomass system is powered by wood chips obtained from silvicultural variable retention measures carried out in coniferous forests (Pinus nigra, Pinus pinaster, Pseudotsuga mentiesii) on public lands with the aim of reducing fire hazard, increase fire resistance and overall ecological stability of forests in the area. Intervention priority in strategic fuel reduction areas are defined by a fire preventions plan (Piani specifici di prevenzione AIB). The Unione Comuni maintains also the road and fuel break network to support fire-fighting interventions in the area.		
Complementary information	Free access publications (in Italian): Forest Management Plan of the public lands managed by the Unione Comuni del Pratomagno: http://www.unionepratomagno.it/sites/www.unionepratomagno.it/files/036_ESTRATTO_PdG.pdf		
Web link	http://www.unionepratomagno.it/ Forest Office: http://www.unionepratomagno.it/uffici?q=ufficio-foreste		
Contact	Not publishable		

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	21
Name	New Business Models for innovating the cork sector and contrasting cork oak woodland abandonment			
Promoter	- Syfar Srl; - University of Palermo, Department of Agricultural, Food and Forest Sciences (SAAF).			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input checked="" type="checkbox"/> National <input type="checkbox"/> EU	Place	Friuli Venezia Giulia, Italy	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Italian, English			

Short description	<p>Cork oak plantations are progressively being abandoned in Sicily as well as in other Italian regions because of the low profitability of cork harvesting; their subsequent invasion by shrubs and forest species leads to the built-up of fire-vulnerable ecosystems. The project deals with the restoration of cork production potential in an abandoned cork oak plantation owned by a cork processing enterprise (Syfar Srl) in Sicily. It was jointly conceived by Syfar Srl and the University of Palermo and it seeks to provide economic sustainability to restoration actions, by transforming a cost item into a revenue item in the annual budget of the enterprise. This is done by transforming a waste material (clearing residues obtained from the restoration of abandoned cork oak woodlands) into a product. In fact, saleable firewood is obtained from cutting tree species other than cork oak and wood chips from shrubs and branches. The latter product has been used to produce thermic energy for the heating of buildings in the cork processing factory.</p> <p>In this way, several objectives have been reached: (i) the reduction of fire risk by removing part of the shrubs; (ii) the re-activation of the production potential of the stand; (iii) the production of marketable firewood and wood chips.</p>
Complementary information	A detailed handbook about best practices for cork oak stands restoration together with a Lyfe Cycle Assessment of the process were realized by the University of Palermo, in the frame of two degree theses and will be the object of a scientific article to be published in a peer reviewed journal.
Web link	https://www.syfar.com/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes			
Basic information		ID INit_	22
Name	Alberapastur Project		
Promoter	Pays Pyrénées Méditerranée (coord.), Chambre d'Agriculture des Pyrénées-Orientales, Chambre régionale d'agriculture d'Occitanie (CRAO), Université de Perpignan Via Domitia (UPVD), Association de défense et de promotion des races locales en pays catalan (ADPRLPC), Association Syndicale Autorisée de travaux Vallespir Aspres Albères (ASA) Vallespir Aspres Albères Syndicat Intercommunal à Vocation Unique des Albères (SIVU), Ministry of Agriculture of Government of Catalonia (DARP), Autonomous University of Barcelona (UAB), Associació BAUSSITGES d'Amics de Vaca de l'Albera (ABAVA), Institut de Recerca i Tecnologia Agroalimentàries (IRTA), Centre de Recerca Ecològica i Aplicacions Forestals (CREAF), Inversions Forestals i Ramaderes, SL - Finca de Requesens		
Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU	Place	France and Spain
General focus (mark as much as necessary)			
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice <input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	French		

Short description	<p>Alberapastur is project is a European POCTEFA project with a duration of 3 years (2018-2020). The main objective of the project is to value the sheep resources and the grazing of a cross-border massif, taking into account the challenges of “multi-use” and the defence of forest in front of wildfires of the territory.</p> <p>The project wants to start a concerted cross-border management of the grasslands and cattle to respond to the problems (“wandering animals”), conflicts of uses, and allow structuring, at medium-term, the massif organization.</p> <p>Furthermore, has a “silvo-pastoral” complementary approach to achieve the maintenance of grazing, particularly, acting in wildfire risk sectors.</p> <p>Some actions of the project are: to realise a sustainable and concerted management of grazing, taking into account, among others, wildfire risk zones. Evaluate maintenance devices of firebreaks, exchange the practices, always taking into account the relation between grazing activities and wildfire prevention actions.</p> <p>This project takes into account the strategic zones defined by firefighters body, for wildfire prevention, to include cattle.</p>
Complementary information	<ul style="list-style-type: none"> - Layman’s Report of the project: http://lifepinassa.eu/wp-content/uploads/2018/06/Layman_Pinassa.pdf - Publications of the project: “The role of fire in the conservation of black pine habitat”: http://lifepinassa.eu/docs/Manual_foc_ENG.pdf
Web link	https://alberapastur.eu/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID Init_	23
Name	Quality-Suber			
Promoter	Forest Services Cooperative, Forest Owners Association of Montegre-Corredor, Forest Owners Association of Alt Empordà			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	NE of Catalonia, Spain	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input type="checkbox"/> Active prevention	<input type="checkbox"/> Passive prevention	<input checked="" type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Spanish and Catalan			

Short description	<p>In 2013 a group of forest owners and foresters created a private enterprise called Quality-Suber, for the joint defence and commercialization of the catalan cork oak.</p> <p>The main objective of the enterprise is to guarantee and improve the process of preparation and commercialization of the cork oak of catalan forests, to acquire a price of the material to make managing cork oak forests profitable for the owner, according the market needs.</p> <p>This association of forest owners to create an enterprise was promoted by the measure 09.00.01 of the RDP that supports the creation of forest producer's groups.</p>
Complementary information	<p>Quality-Suber is involved in different initiatives that promotes the management and knowledge of oak forests as "Operational Group BioCork" and "LIFE Suber"</p> <p>(https://www.qualitysuber.com/es/estudios-y-proyectos/)</p>
Web link	https://www.qualitysuber.com/es/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID Init_ 24
Name	Sustainable Forest Management Orientations for Catalonia (ORGEST)			
Promoter	CPF (Catalonia ID_Inst 2)			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Catalonia, Spain	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input type="checkbox"/> Best practice	<input checked="" type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Spanish and Catalan			

Short description	<p>The ORGEST are based on the identification and definition of the different forest typologies of Catalonia and the definition of forest models for the fuel management according the preferred objectives established for each forest or management unit, which have to choice according the economic, climate, environmental and social context and the property parameters, taking into account the production forest capacity.</p> <p>There are different guides explaining the best forest management model to apply in the different type of forest as: <i>Abies alba</i> (wood production), <i>Fraxinus excelsior</i>, <i>Betula pendula</i>, <i>Betula pubescens</i>, <i>Populus tremula</i>, <i>Corylus avellana</i>, <i>Quercus petraea</i>, <i>Quercus robur</i>, <i>Quercus pyrenaica</i>, <i>Quercus canariensis</i>, <i>Pinus pinea</i>, <i>Quercus suber</i>, <i>Fagus sylvatica</i>, <i>Castanea sativa</i>, <i>Pinus sylvestris</i>, <i>Pinus nigra</i>, <i>Quercus faginea</i>, <i>Quercus humilis</i> or <i>Pinus halepensis</i>.</p> <p>There is one specific parameter and indicator for the sustainable forest management: the large fire risk. The specific guide includes the large fire risk into the forest management from two points of view: elaboration of wildfire type risk map, and elaboration of management models that integrates the fuel management. The main objective of the management unit can be the production, production and prevention or only prevention, taking into account the forest typology identified and the forest vulnerability in front of a large fire, with the location and previous identification of wildfire type and regime that could be done in the management unit.</p>
Complementary information	<p>Guide of the integration of large fire risk into the forest management:</p> <p>http://cpf.gencat.cat/es/detalls/Article/ORGEST-parametres_Integracio-del-risc-de-GIF-en-la-GF</p>
Web link	http://cpf.gencat.cat/es/cpf_actualitat/cpf_publicacions/cpf_colleccions/cpf_orientacions_gestio_forestal_sostenible/
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes			
Basic information			ID Init_ 25
Name	Action areas enlargement of large fires prevention plan of Matadepera municipality		
Promoter	ADF (Catalonia ID_Inst 10) Matadepera		
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Matadepera, Catalonia, Spain
General focus (mark as much as necessary)			
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information			
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	Catalan		

Short description	<p>The municipality of Matadepera (Barcelona province) has one Forest Defence Association (ADF, see Institution 10 of Catalonia) with more than 25 years of experience.</p> <p>The municipality has part of their territory in a Natural Park protected (Natura 2000) and has different projects promoted by the ADF, highlighting the Large Fires Prevention Project.</p> <p>The Project was enlarged to improve the efficiency and effectiveness in the emergency management by large forest fires.</p> <p>Different areas of action are defined in a supra-municipal scale through a joint plan between different owners' associations that determines some of actions included in the Large Fires Prevention Plan. This, was an opportunity to enlarge the wildfire prevention infrastructures on a larger scale.</p> <p>The ADF of Matadepera promoted the recovery of extensive grazing of sheep and goats to maintain these infrastructures (that implies a reduction of the fuel mass) through a specific contract with the cattle ranchers, that was an opportunity to comply with two objectives at the same time (recovery of the traditional grazing on the territory and maintaining the infrastructures with less mechanical work).</p> <p>As a part of the management, the ADF is in charge of till and sow some crops to produce meal for the cattle.</p> <p>With this cattle, that are doing wildfire prevention actions, is established a proximity market line that is selling the meat.</p>
Complementary information	This initiative was selected in 2019 as a prize-winner of different initiatives in wildfire prevention. The award was promoted by the Barcelona Province Authority to recognise the best wildfire prevention initiatives in Barcelona province.
Web link	-
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes				
Basic information				ID Init_ 26
Name	Priority Protection Perimeters (PPP)			
Promoter	General Directorate of Forest Ecosystems and Environment Management (ID_Inst 1)			
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Massif level, Catalonia, Spain	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input checked="" type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material		
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource	
Available languages	Catalan			

Short description	<p>The Priority Protection Perimeters (PPP) are territorial areas (normally at forest massif level, and limited by big infrastructures as highways, for example) with a high wildfire risk and that, due to the continuity of the forest mass, may suffer fires that become a large forest fire (defined as greater than 500 ha). The main objective is to plan the necessary measures in those areas that constitutes a sufficiently broad unit of action to allow planning with an "integrative vision", defining and identifying the strategic prevention infrastructures for the whole area (designed in a project of a wildfire prevention infrastructures). Each PPP has its own Prevention Project.</p> <p>Normally, the Prevention project of PPP includes the Strategic Points designed by the Catalan Fire Service, among other prevention infrastructures. These strategic points are areas where the fire behaviour can change and their treatment as a prevention infrastructure could be an opportunity to reduce the large fire potential. These points can be created reducing the fuel mass by mechanical works, or can be territorial infrastructures that are in the territory, as croplands.</p> <p>The case of PPP ET2 "Tivissa-Vandellòs-Llaberia-Pradell" has a vineyard sector associated to different municipalities included in the Apellation of Origin of Montsant. Some strategic points for fire prevention served for creating new vineyard crops, and reinforcing the existing ones with water points and other facilities. Wineries from Montsant are promoting the contribution of wine consumption to the fire prevention and conservation of the landscape.</p>
Complementary information	There are 34 PPP designed in Catalonia. Each one has its own Project of a Wildfire Prevention Infrastructures.
Web link	
Contact	Not publishable

Initiatives and smart solutions towards fire resilient landscapes					
Basic information				ID INit_	27
Name	Rebanhos da Serra do Açor-Rabadão				
Promoter	Anabela Martins & Luis Fontinha				
Scope	<input checked="" type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input type="checkbox"/> EU	Place	Serra do Açor (Center region), Portugal		
General focus (mark as much as necessary)					
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development		
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery		
Description and complementary information					
Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material			
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource		
Available languages	Portuguese				
Short description	<p>Private initiative of a couple that rented a communal land to raise goats, to produce dairy products using local agricultural products, to maintain the primary firebreaks network, with the ultimate goal of being a living and practical experience of sustainability and integration with the environment. The project has 3 pillars: environment, fire management and forestry production.</p> <p>It will show forestry producers profitable options for maintaining the forest and the firebreaks in eucalyptus and conifers plantations. It will also show the benefits of integrating pastures (irrigated and non-irrigated) to have high quality forestry production.</p> <p>The academic field will be represented in the project by helping to think and define how to improve the agricultural and forest holdings, contributing to the local development. It will likely be created a flock of sapper-goats for fuel management around Gois town, showing community a profitable alternative to fuel management machines.</p> <p>The interaction with the community and the pedagogical perspective will be developed through visits, collaboration with the municipality, and workshops with interested entities and for the public, especially for the local community.</p>				
Complementary information					
Web link	https://www.facebook.com/pg/Rebanhos-da-Serra-do-Acor-Rabad%C3%A3o-397052831049512/about/?ref=page_internal				
Contact	Not publishable				

Initiatives and smart solutions towards fire resilient landscapes			
Basic information		ID INit_	28
Name	Landscape Fire Project – New methodologies for forest fire prevention		
Promoter	EU, LIFE - Coord. Comunidade Intermunicipal Viseu Dão Lafões (PORTUGAL), participation of Spanish Institutions		

Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU		Place	Spain/Portugal
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention		Passive prevention <input type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness		<input type="checkbox"/> Response	<input type="checkbox"/> Recovery
Description and complementary information				
Main category	<input checked="" type="checkbox"/> Best practice		<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web		<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	English			
Short description	<p>The main objective of this project is to develop an effective procedure for fire prevention in Viseu Dão Lafões (Portugal) and in Sierra de Gata, Las Hurdes and Sierra de San Pedro (Spain). It will carry out a series of pilot actions, based on a methodology successfully implemented elsewhere (in Andalusia and Catalonia). This methodology combines prescribed fires and grazing techniques to reduce forest fuel, converting fire-prone forests into more resilient areas.</p> <p>The project will contribute to a range of EU policy and legislation, including: the forest strategy; roadmap to a resource efficient Europe; circular economy action plan; thematic strategy for soil protection; biodiversity strategy; and the Habitats and Birds directives.</p>			
Complementary information	Expected results include around 900 ha of grazed fire-breaks, reducing bare ground by 60%, leading to less soil erosion and compaction as well as a significant increase in soil organic carbon; and reduction of 120/ha in the maintenance costs for fire-breaks.			
Web link	https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=7215			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	29
Name	Resilient Forests Project - Coupling water, fire and climate resilience with biomass production in Forestry to adapt watersheds to climate change			
Promoter	EU, LIFE - Coord. Universitat Politècnica de València (SPAIN), participation of Portuguese Institution (Associação para o Desenvolvimento da Aerodinâmica Industrial).			
Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU		Place	Spain/Portugal
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention		Passive prevention <input checked="" type="checkbox"/> Forestry production <input checked="" type="checkbox"/> Maintaining mosaic landscape and grazing <input checked="" type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness		<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery
Description and complementary information				

Main category	<input type="checkbox"/> Best practice		<input type="checkbox"/> Field reference guide / training material	
	<input checked="" type="checkbox"/> Mobil app. / portal web		<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	English, Spanish, Portuguese and German			
Short description	<p>The first objective of the project is to develop a Decision Support System (DSS) for forest managers, which introduces them to the climate change adaptation processes. This system will comprise updated management practices on the watershed scale and climate change-related issues. The support system will be then demonstrated on two levels, sub-catchment and catchment, in Germany, Portugal and Spain. At each location the DSS will be modified by involving the relevant stakeholders.</p> <p>The project also plans to develop a complete monitoring system, including a Life Cycle Assessment of the forest management approach (following ISO 14040/44), that will demonstrate the positive environmental impact of the project, as well as its socioeconomic impact. A further objective is to develop a strategy for transferring management approaches around Europe and to organize networking activities to facilitate the transfer of information on forest management and climate change initiatives. The project will contribute to the Roadmap for moving to a competitive low carbon economy by 2050, as well as 2020 Energy Strategy targets and the EU's strategy on adaption to climate change, among other EU policy areas.</p>			
Complementary information	<p>Among the expected results are:</p> <ul style="list-style-type: none"> - Increased biomass production for bioenergy uses, between 10 and 15 t/ha year, including both forest and agricultural residues traditionally burned and usually the cause of wild fires. This biomass will be transformed into bio-energy (pellets) generating around 49 400 kW/ha. Thus, this biomass production not only will reduce the CO2 emissions from 10 to 15 t/ha, but also will diminish the fire hazard and will create job opportunities in rural areas (around 0.3 jobs/ha); - Reduced fire hazards by 30% compared to a scenario without forest management, further protecting rural populations currently residing in at risk areas (6 000 inhabitants) around the Mediterranean, as well as other areas of Central Europe; and - Increased resilience of 25% of forest areas to withstand droughts, pests and disease outbreak. 			
Web link	https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=6710			
Contact	Not publishable			

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	30
Name	LIFETEC Project – Fighting forest fires using electronic and communication technologies			
Promoter	EU, LIFE - Coord. Universidade de Vigo (SPAIN), participation of Portuguese Institution (Instituto Português do Mar e da Atmosfera, I. P.).			
Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU		Place	Spain/Portugal
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input checked="" type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input type="checkbox"/> Recovery	
Description and complementary information				
Main category	<input type="checkbox"/> Best practice		<input type="checkbox"/> Field reference guide / training material	

	<input type="checkbox"/> Mobil app. / portal web	<input checked="" type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	English, Spanish, Portuguese and Galician		
Short description	<p>The project aims to show that it is possible to use existing meteorological radars to detect forest fires at an early stage, thereby improving the usefulness of EFFIS. The project will also test the use of new communication and navigation systems that can improve the management and coordination of agents involved in fire-fighting, reducing their response time and the forest area burned. The project actions will be implemented in the region of Galicia in north-west Spain, and in Arouca, Portugal.</p> <p>The specific objectives of the project are:</p> <ul style="list-style-type: none"> - To demonstrate the use of weather radars to detect forest fires at an early stage. For this, it will develop and test new early detection algorithms; and - To use TETRA (Terrestrial Trunked Radio) digital radio for communicating with and coordinating fire-fighting teams. This will avoid the problem of poor network coverage in rural areas that can hinder the use of mobile phone systems. <p>LIFETEC will contribute to the implementation of the EU Regulation on the protection of forests against fire. The system being trialled by this LIFE project has significant scope to be replicated elsewhere.</p>		
Complementary information	<p>Expected results:</p> <ul style="list-style-type: none"> - Weather radars to detect 20% of detected fires before other technologies; - Response times to be 20% quicker; - Reduction in the average wooded area burned per fire to no more than 1 ha; - Increase the proportion of fires of up to 1ha by 2%; - Less than 2% of fires to exceed 25 ha. In 2015, 2.55% of fires in Galicia were larger than 25 ha; - A 10% reduction in the use of fire-fighting aircraft; - A 15% reduction in the average area burned per fire and average carbon dioxide emission per fire (compared with fires in 2006-2015– average of 33.38ha); and - 25% less serious accidents compared to total number of intervention hours; and - 25% less time spent fighting forest fires 		
Web link	https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=6269&docType=pdf		
Contact	Not publishable		

Initiatives and smart solutions towards fire resilient landscapes				
Basic information			ID INit_	31
Name	REFOREST Project - Erosion prevention and flora REstoration of burnt FOREST areas through innovative fungal-technosol solution			
Promoter	EU, LIFE - Coord. Fundación Centro Tecnológico de Investigación Multisectorial (SPAIN), participation of Portuguese Institutions (Universidade de Aveiro and Associação Florestal de Portugal).			
Scope	<input type="checkbox"/> Regional/Sub-regional <input type="checkbox"/> National <input checked="" type="checkbox"/> EU	Place	Spain/Portugal	
General focus (mark as much as necessary)				
Classes into DRM cycle phases	<input checked="" type="checkbox"/> Active prevention	Passive prevention	<input type="checkbox"/> Forestry production <input type="checkbox"/> Maintaining mosaic landscape and grazing <input type="checkbox"/> Other societal and structural support to rural development	
	<input type="checkbox"/> Preparedness	<input type="checkbox"/> Response	<input checked="" type="checkbox"/> Recovery	
Description and complementary information				

Main category	<input checked="" type="checkbox"/> Best practice	<input type="checkbox"/> Field reference guide / training material	
	<input type="checkbox"/> Mobil app. / portal web	<input type="checkbox"/> Software / IT / DSSS	<input type="checkbox"/> Video / Media resource
Available languages	English, Portuguese and Spanish		
Short description	<p>The project will demonstrate the implementation of a strategy to mitigate soil loss using a Technosol, or soil derived from organic waste (including cereal straw, sawdust and wool) treated with fungal species. Use of this material will help boost the natural regeneration of affected areas, improve the soil structure, provide organic matter and nutrients to the soil, and enhance water retention.</p> <p>The project will test the cost effectiveness of the approach in two areas, with the expectation that the costs will be less than €300 per hectare. The project will also develop and provide recommendations to local, regional and national authorities on post-fire remediation strategies. The project will contribute to realization of European Union priorities such as the prevention of soil degradation (as in the EU Soil Thematic Strategy, COM (2006) 231), forest restoration (EU Forest Strategy, COM (2013) 659), minimization of water pollution (Water Framework Directive, 2000/60/EC) and recovery of carbon sinks (2050 EU Low-Carbon Economy Roadmap, COM (2011) 112).</p>		
Complementary information	<p>Expected results: Compared to a baseline scenario in which no additional measures are put in place, the project will:</p> <ul style="list-style-type: none"> - Produce the Technosol from organic wastes and agro-industrial by-products including cereal straw, sawdust and wool; - Reduce the erosion of soils in burned areas by 70 %; - Reduce pollution of water bodies downstream from burned areas by increasing water retention through deployment of the Technosol. Pollution of water downstream from burned areas is caused by washed off ash and other material; the volume of these total dissolved solids will be reduced by up to 80 %; - Demonstrate more rapid recovery of organic content and microbial activity within affected soils, so that signs of recovery are evident up to eight months after a fire; recovery of organic content and microbial activity to 95 % of their original levels; - Develop a soil erosion response approach that is 25 % less costly than current approaches involving application of straw mulch or wood chips; - Reduce the environmental and socioeconomic impacts of forest fires by 50 %, through the reduction of the time required for affected areas to return to pre-fire productivity levels; - Promote the Technosol approach to more than 90 000 forest owners throughout Europe; - Develop replicability and transferability guides and business plans, and provide recommendations to stakeholders. 		
Web link	https://ec.europa.eu/environment/life/project/Projects/index.cfm?fuseaction=search.dspPage&n_proj_id=6754		
Contact	Not publishable		