



## General information

<b>Description</b>	The study provides quantitative information on the effect of mechanical shredding of burned non-commercial pine trees on soil coverage, soil compaction and soil erosion	
<b>Geographical area</b>	Galicia	
<b>Group of tree species</b>	<i>Pinus pinaster</i> and <i>Pinus sylvestris</i>	
<b>Date</b>	September 2018	
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<b>Tool type</b>	Case studies	
<b>Tool format</b>	Text	
<b>Language</b>	Spanish	
<b>Risk management plans to which the tools can be added</b>	Soil degradation risk management plan	
<b>Risk management plans link</b>	<a href="https://plurifor.efi.int/wp-content/uploads/WP2/plans/Soil-degradation-plan_ES.pdf">https://plurifor.efi.int/wp-content/uploads/WP2/plans/Soil-degradation-plan_ES.pdf</a>	
<b>This tool is...</b>	<input checked="" type="checkbox"/> a new tool	<input type="checkbox"/> an improved tool

## Topic

<b>Risk</b>	Soil degradation		
<b>Risk component</b>	<input type="checkbox"/> hazard	<input checked="" type="checkbox"/> impact	<input type="checkbox"/> vulnerability
<b>Risk area</b>	Risk management		
<b>Risk phase</b>	Rehabilitation/restoration		
<b>Risk phase (alternative terms)</b>	Recovery		
<b>Level</b>	Regional		
<b>Sendai priorities</b>	<input checked="" type="checkbox"/> Priority 1: Understanding disaster risk <input checked="" type="checkbox"/> Priority 2: Strengthening disaster risk governance to manage disaster risk <input checked="" type="checkbox"/> Priority 3: Investing in disaster risk reduction for resilience <input type="checkbox"/> Priority 4: Enhancing disaster preparedness for effective response and to “Build Back Better” in recovery, rehabilitation and reconstruction		
<b>Contribution to Sendai targets</b>	<input type="checkbox"/> Reduce global disaster mortality <input type="checkbox"/> Reduce the number of affected people <input checked="" type="checkbox"/> Reduce the direct disaster economic loss <input type="checkbox"/> Reduce disaster damage to critical infrastructure <input type="checkbox"/> Increase the number of national and local disaster risk reduction strategies <input type="checkbox"/> Enhance international cooperation to developing countries <input checked="" type="checkbox"/> Increase availability of and access to multi-hazard early warning systems and disaster risk information and assessment		



### Description and analysis

#### Summary

Thousands of hectares of non-commercial trees burn every year in NW Spain. At the same time, mechanical shredding has become a common site preparation in those areas. This study provides technical information about the consequences of this activity on soil erosion risk through the evaluation of soil losses after that operation along with the characterization of some critical properties as soil compaction.

#### Place in national/regional policy

Soil erosion mitigation plans after forest fires that is included in the Plan de prevención y defensa contra incendios forestales de Galicia (PLADIGA) and the Plan Forestal de Galicia

#### Goals and achievements

In forest stands salvage logging after fire is a critical step that can affect soil conservation. Scientifically based knowledge is provided in this report that can help to compatibilize post-fire forest management and soil conservation.

#### Stakeholders involved

Forest managers, forest owners, public administration and researchers

#### Implementation stage

Some practical recommendations are provided to include

#### State of technical knowledge

The information provided are the first empirical results obtained about the effects of mastication on soil conservation

#### Regulatory and/or socio-economic contexts

This tool can be integrated into the management plan of soil stabilization after forest fires

### Impacts of the tool

It is important for the decision processes in the implementation of post-fire soil stabilization measures. This kind of treatments can be proposed as alternative mulching treatments

### Implementation requirements and durability

#### Description of the implementation steps

Fire severity evaluation  
Slash cover evaluation  
Proposal of additional mulch coverages

#### Governance

CIF Lourizán along with its associated partners (Sub. Dirección de Prevención e Defensa contra Incendios Forestais) will continue to increase the number of cases of study

#### Regulatory framework

The tool is only advisory.

#### Human resources requirements

Collaboration between managers, forest owners and researchers

#### Financial requirements

Mainly dependent on the cost of mastication operations

#### Technical requirements

It is necessary to carry out field assessments of the level of slash cover over soil



**Priorities identified for successful implementation of the tool (political, technical, human, financial...)**

It will be necessary in the future to collect more information in a wider range of situations (type of vegetation and machinery)

**Challenges or risk factors (legal, financial, safety...) expected during the implementation and solutions proposed**

The main challenge is to coordinate forest managers, companies and owners to achieve the objectives of soil conservation

**Additional and non-formal experiences to help the implementation of good practice**

The results gathered in the cases of study could be included in a post-fire management guide to be accessible to a general audience.

### SWOT analysis

Strengths	Weaknesses
The data presented provide alternatives to the management of young stands, and the use of alternative mulching materials	It only refers to a particular type of machinery. Other situations should be tested.
Opportunities	Threats
It provides alternatives of management to young forest stands	The need to revise forestry operations to ensure that soil protection is provided

### Lessons learnt

<b>Evaluation process, if exists (internal or external)</b>
Verbal feedback with the associated partners
<b>Assessment of results (quantitative and qualitative) and comparison with main goals</b>
Tool meets the original goals
<b>Negative aspects identified</b>
There is a need to increase the dataset under wider soil and climatic conditions
<b>Unexpected consequences (short- / mid- / long-term) and corrective measures implemented</b>
None

### Access to complete tool

<b>Files</b>	Mastication.pdf
<b>Web links</b>	<a href="https://plurifor.efi.int/wp-content/uploads/WP2/tools/Soil-degradation-Mastication.pdf">https://plurifor.efi.int/wp-content/uploads/WP2/tools/Soil-degradation-Mastication.pdf</a>