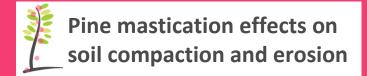
Soil degradation

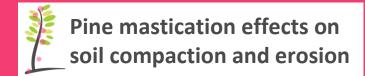


General information

Description	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		
Geographical area	Galicia		
Group of tree species	Pinus pinaster and Pinus sylvestris		
Date	September 2018		
Authors (affiliation)	Cristina Fernández; José Mª Fernández-Alonso; Teresa Fontúrbel		
	(Centro de Investigación Forestal de Lourizán)		
Contact e-mail	<u>cristina.fernandez.filgueira@xunta.es</u>		
Tool type	Case studies		
Tool format	Text		
Language	Spanish		
Risk management plans to	Soil degradation risk management plan		
which the tools can be added			
Risk management plans link	https://plurifor.efi.int/wp-content/uploads/WP2/plans/Soildegradation-plan ES.pdf		
This tool is	⊠ a new tool	☐ an improved tool	

Topic

Торіс				
Risk	Soil degradation			
Risk component	☐ hazard	⊠ impact	☐ vulnerability	
Risk area	Risk management			
Risk phase	Rehabilitation/restoration			
Risk phase (alternative terms)	Recovery			
Level	Regional			
Sendai priorities	 ☑ Priority 1: Understanding disaster risk ☑ Priority 2: Strengthening disaster risk governance to manage disaster risk ☑ Priority 3: Investing in disaster risk reduction for resilience ☐ Priority 4: Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation and reconstruction 			
Contribution to Sendai targets	 □ Reduce global disaster mortality □ Reduce the number of affected people ☑ Reduce the direct disaster economic loss □ Reduce disaster damage to critical infrastructure □ Increase the number of national and local disaster risk reduction strategies □ Enhance international cooperation to developing countries ☑ 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 recommedations 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 parterns (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

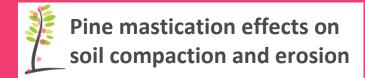
Financial requirements

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

Soil degradation



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

Lessons learnt

Evaluation process, if exists (internal or external)

Verbal feedback with the associated partners

Assessment of results (quantitative and qualitative) and comparison with main goals

Tool meets the original goals

Negative aspects identified

There is a need to increase the dataset under wider soil and climatic conditions

Unexpected consequences (short- / mid- / long-term) and corrective measures implemented None

Access to complete tool

Files	Mastication.pdf	
Web links	https://plurifor.efi.int/wp-content/uploads/WP2/tools/Soil-degradation-	
	<u>Mastication.pdf</u>	

