

# BOOK OF ABSTRACTS

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FORESTS & SOCIETY  
TOWARDS 2050



STOCKHOLM 2024  
WORLD CONGRESS 26th **IUFRO**  
FORESTS & SOCIETY TOWARDS 2050

Stockholm, Sweden  
23–29 June 2024

## Restoring Mediterranean Oaks: Enhancing Conservation and Management through Networked Plot Monitoring and Plot-based Analysis

T3.3 Disappearing oak woods: conservation and management of global oak forests

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**Abstract:** Sustainably managing forests as targeted in SDG 15 requires understanding the current state of forests, the factors that constrain or threaten this sustainability, and the factors or actions that facilitate it. Monitoring the dynamics of trees and forest development, as a whole, needs to be ensured to understand the most limiting factors and promote adaptive management actions to ensure the sustainability of the forests. In the case of oaks in temperate regions and those with Mediterranean influence, situations of fragility in guaranteeing sustainability have been reported for some species (e.g. *Quercus suber*, *Q. ilex*), with forests developing with a very low density or undergoing decline mainly due to biotic threats. Climate change may make this scenario even more complex, with an expected increase in summer temperatures and/or a potential reduction in rainfall, conditioning seed production, seedling development and tree survival. These forest systems' fragility often worsens when operated as intensive agro-pastoral or silvoagropastoral systems.

Assessing the existing oak forests' and monitoring the development of representative oak forest is therefore fundamental to diagnosing the current state and deciding on the appropriate practices to guarantee forests' conservation, restoration or improvement. With this presentation the authors summarize activities developed under the Mobilizing Agenda "TransForm- Digital transformation of the forest sector towards a resilient and low-carbon economy", supported by the PRR-Recovery and Resilience Plan and the European NextGeneration EU Funds, involving data collection and the establishment of a network of experimental forest plots to analyze and forecast forest dynamics. The network will facilitate the assessment of the development of the forests under different situations and practices, providing valuable information regarding current pressures and in the context of climate change. By implementing this plot-based analysis, it is aimed to ensure the long-term sustainability and productivity of oak forests, benefiting the entire forestry sector value chain. Additionally, the authors will explore measurement protocols for assessing natural regeneration, providing valuable insights into the restoration process. By leveraging the analytical power of plot-based analysis and combining it with expertise in oak forest management, we can develop effective strategies to enhance the resilience and productivity of Mediterranean oak forests.