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dialogue  
begin**



**WORKING GROUP ENVIRONMENT/ECOLOGY**

**SUMMARY OF THE WEBINAR ON FUEL  
MANAGEMENT FOR WILDFIRE RISK  
REDUCTION AND NATURE CONSERVATION**

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Project: **Cross-sector dialogue for Wildfire Risk Management**

Acronym: **Firelogue**



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# SUMMARY OF THE WEBINAR ON FUEL MANAGEMENT FOR WILDFIRE RISK REDUCTION AND NATURE CONSERVATION

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## 1. Context and general objective

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The overarching objective of [Firelogue](#) is to create a network and a platform for the discussion on the future of European WFRM, engaging the entirety of the WFRM community. It focuses on supporting the Innovation Actions (IAs) funded under the same call while simultaneously coordinating the integration of actors and findings into cross-sectoral WFRM recommendations into a roadmap for 2030 and beyond. The project comprises five [working group](#) topics (Environment/Ecology, Civil Protection, Societal, Infrastructures, Insurances), which serve as the structure for the dialogue.

Within [Working Group Environment/Ecology](#), the focus is on understanding ecosystems' responses to changing fire-prone conditions and the influence of cross-sectoral policies on landscape modulation, which are two main pillars of the environmental dimension of WFRM. Novel knowledge and innovative actions should assist managers in adapting and managing fire-resilient landscapes across the EU, considering climate change projections and the expected impacts of land use changes in a collaborative and cost-efficient manner. At the forest stand level, for instance, in depth analysis of fuel management options to create forest structures resistant to wildfires become imperative, maximizing synergies among sectoral policies such as bioeconomy or biodiversity conservation. This approach aims to protect not only forests but also society against high-intensity fires.

This webinar aims to explore synergies and potential disfunctions across fuel management practices aimed at reducing the risk of damaging wildfires and biodiversity conservation and nature restoration. This is aligned with the current policy dialogue around, for instance, the new EU Nature Restoration Law and the implementation of the new EU forest strategy for 2030, among others.

Organized by WG Environment/Ecology, jointly with [FoRISK](#) and [Forest Europe](#), this webinar is part of a the Firelogue webinar series fostering a Fire-dialogue. A second webinar organized by WG Environment/Ecology will be held on May 29<sup>th</sup>, addressing the topic of [nature-based solutions for integrated wildfire risk management](#).





## 2. Agenda

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Thursday 25 <sup>th</sup> April	
Time (CEST)	Agenda Item
10:00 - 10:10h	Welcome: <i>Eduard Plana, Forest Science and Technology Centre of Catalonia (CTFC), WG Environment coordinator &amp; Maïke Overmeyer, Fraunhofer (FhG), Firelogue coordinator team</i>  Introduction of the Webinar by moderators <i>Alexander Held, European Forest Institute (EFI)</i> and <i>Julia Haas, Forest Europe</i>
10:10 - 11:10h	Presentations <ul style="list-style-type: none"><li>• <b>Interlinkages between forest fires, biodiversity and forest ecology in Boreal forests.</b> <i>Sebastian Kirppu, Protect the Forest, Sweden</i></li><li>• <b>Wildfires in Natura 2000 sites: situation, prevention and proposals for comprehensive management.</b> <i>Antonio López, Ministry for the Ecological Transition and the Demographic Challenge, Spain</i></li><li>• <b>How wind/bark beetle outbreaks influence wildfires in Central Europe, the challenges for fulfilling wildfire prevention and nature conservation goals.</b> <i>Roman Berčák, Czech University of Life Sciences Prague, Czech Republic</i></li><li>• <b>Fire as a nature conservation tool – EU perspective.</b> <i>Adrian Tištan, DG Environ - Land Use &amp; Management Unit, Forest Team, European Commission</i></li></ul>
11:10 - 11:50h	Panel Discussion (open to the audience)
11:50 - 12:00h	Sum-up and closure





### 3. Speakers and Audience

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#### SPEAKERS

##### **Sebastian Kirppu**

With a degree in Nature Conservation, he is an experienced forest biologist with 27 years of expertise in the field of forest biology and nature conservation. His work has primarily focused on projects involving endangered species and old-growth boreal forests, including contributions to the LIFE Taiga initiative. For the past three years, he has been working with the NGO Protect the Forest in Sweden.



##### **Antonio López**

He is a Forestry Engineer and Master in Protected Natural Spaces. Since 2021 he has been working in the National Park Authority of Spain, belonging to the Ministry for the Ecological Transition and the Demographic Challenge of Spain. Previously and for 9 years he was part of the Spanish Forest Fire Service of the same Ministry in functions of prevention, statistics, communication and emergency response.



##### **Roman Berčák**

He graduated with a master's degree in forestry from the Czech University of Life Sciences in Prague. He then pursued a PhD in Fire Protection of Forest, Timber, and Wood-Based Materials, completing it in 2024. He has been involved in wildfire science for almost 10 years. His research topic revolves around prevention and preparedness tools, particularly in the development of fuel models, the relationship between fuel and wildfires, and factors influencing the occurrence of wildfires in the Czech Republic. He is currently employed at the Czech University of Life Sciences Prague, working at the Faculty of Forestry and Wood Sciences, specifically within the Department of Forest Protection and Entomology.





**Adrian Tišťan**

With a degree in Forest Management from the University of Copenhagen, he has worked at various positions at the European Commission since 2019. Currently, he is a policy officer in the forest team of the Land Use and Management Unit of Directorate-General for Environment, where he is responsible for the implementation of various actions of the new EU Forest Strategy for 2030 and co-chairing the Expert Group on Forest Fires.





## AUDIENCE

The webinar was open to experts in the field, including practitioners, scientists, and policymakers. It was promoted via social media and targeted invitations to networks and relevant stakeholders. A total of 128 registrations were received. Figure 1 below illustrates the global distribution of registrants, highlighting the wide geographic reach. The graphic displays the number of registrants per country.

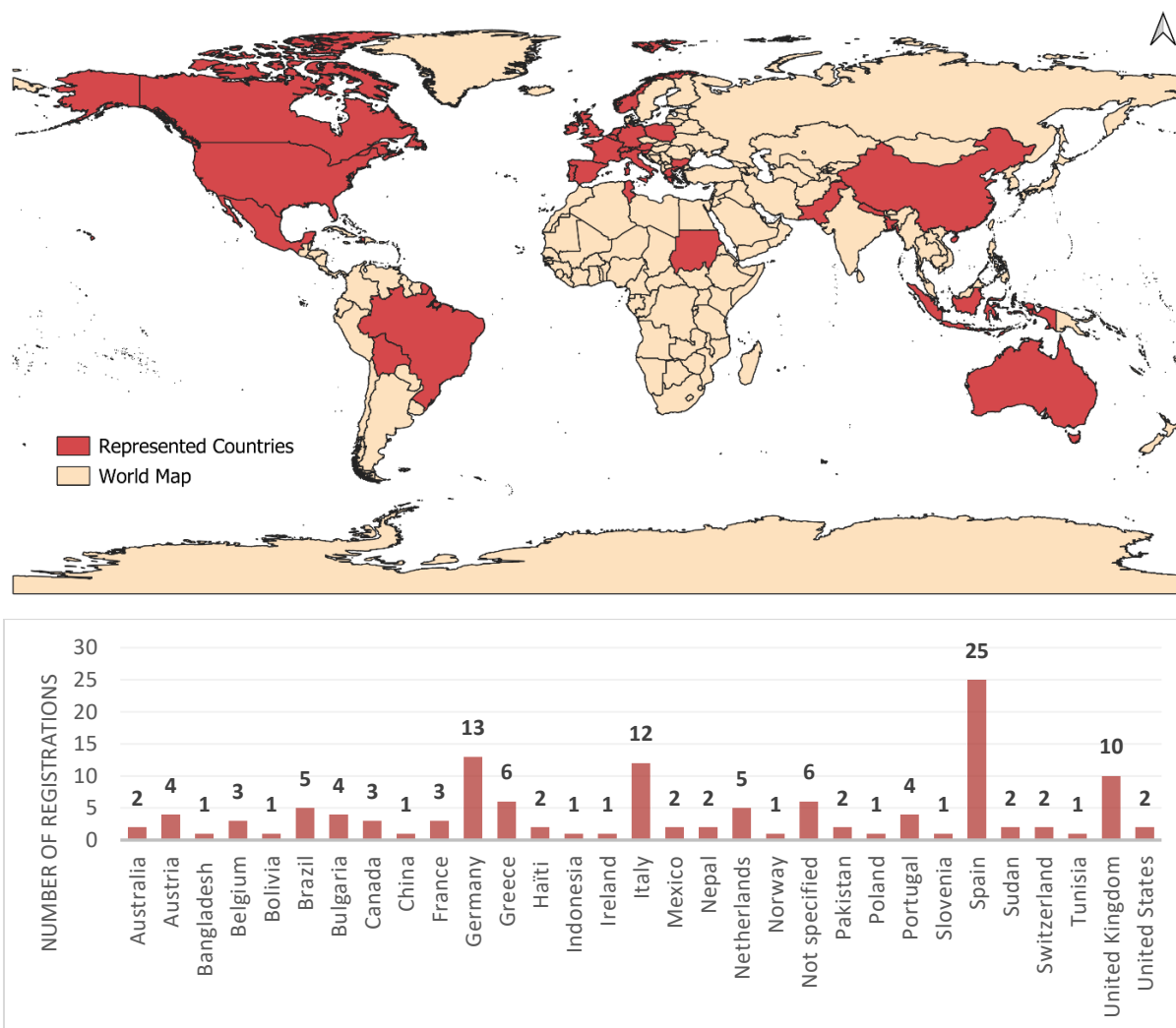


Figure 1 Webinar registrants' country representation







## 4. Summary

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### PRESENTATIONS

#### **INTERLINKAGES BETWEEN FOREST FIRES, BIODIVERSITY AND FOREST ECOLOGY IN BOREAL FORESTS.**

*Sebastian Kirppu, Protect the Forest, Sweden*

The first presentation, by Sebastian Kirppu from Protect the Forest in Sweden, starts off by discussing the historical fire regime of certain boreal forests, particularly pine forests in Sweden. Evidence of wildfires is highlighted through features such as tree scars. Sebastian then provides examples of how biodiversity and certain species can benefit from controlled forest fire management. Endangered species like *Pursatila vernalis* (a plant) have been shown to increase their populations after forest fires, and some species, like *Daldinia* sp. (a fungus), depend on forest fires for survival, growing only in trees affected by the fires. The presentation also emphasizes the capacity of fire to create diverse ecosystems, such as deciduous-dominated forests, which are now nature reserves in Sweden following wildfires. Conversely, the speaker discusses ecosystems not currently favoured by fire, such as pine forests that burned in the 1800s and have remained untouched for years, creating special habitats for rare and endangered species like lichens and polyps. Finally, the presentation was concluded by underscoring the need to restore most pine areas managed by common forestry methods in Sweden through controlled forest fires due to their foundational role in the pine forest ecosystem.

#### **WILDFIRES IN NATURA 2000 SITES: SITUATION, PREVENTION AND PROPOSALS FOR COMPREHENSIVE MANAGEMENT.** *Antonio López, Ministry for the Ecological Transition and the Demographic Challenge, Spain*

The presentation on wildfires in Natura 2000 sites by Antonio López from the Spanish Ministry for the Ecological Transition and the Demographic Challenge, started with a reference to the publication "[Wildfires in Natura 2000 Sites: situation, prevention and proposals for integrated management](#)" (published in Spanish). It was explained that the publication stemmed from a seminar that highlighted the inadequate communication and coordination among various experts working within the same landscapes, such as forest managers and protected areas managers. Several key points from the publication are highlighted, including the lack of integration of fire hazard considerations in Natura 2000 sites, despite 50% of these sites being in wildfire-prone areas. The sociological aspect of fire in Spain, including its historical agricultural use, and the cultural significance of fire in the landscape are also emphasized. Furthermore, the presentation addresses the role of private property in the context of wildfires and stressed the importance of collaboration between the administration and forest owners in Spain. The benefits of prescribed burns and planned fires for mitigating high-frequency fires in Spain are underscored, but the need for a deeper understanding of ecosystem responses to fire use is emphasized. Regarding policies, the speaker notes that there is insufficient coordination among





various sectoral policies affecting the same land, and a lack of fire planning within Natura 2000 sites, as well as the absence of species or habitat regulations in fire prevention plans. In summary, in this presentation, fire is portrayed as an opportunity in Spain to develop resilient landscapes, and it is emphasized that different experts must collaborate to enhance the use of fire for forest management and to address climate change impacts.

**HOW WIND/BARK BEETLE OUTBREAKS INFLUENCE WILDFIRES IN CENTRAL EUROPE, THE CHALLENGES FOR FULFILLING WILDFIRE PREVENTION AND NATURE CONSERVATION GOALS.** *Roman Berčák, Czech University of Life Sciences Prague, Czech Republic*

Roman Berčák from the Czech University of Life Sciences, working at the Faculty of Forestry and Wood Sciences, addresses the impact of wind and bark beetle outbreaks on wildfires in Central Europe. The Czech Republic being heavily reliant on Norway spruce and partly on Scots pine. Even national parks which are in the transition to more natural ecosystems, are still partly used for timber production. This type of forest is vulnerable to spruce bark beetle infestation, outbreaks have increased due to climate change. Clear-cutting has become the established forest management practice, but also burning of harvesting residues to reduce the availability of potential breeding material for the bark beetle. Roman states that it is only a question of time before reaching the “triple trouble”. Due to a rapid accumulation of fuel (caused by bark beetle or wind disturbance), there is an increased risk of large-scale and intense wildfires, contrasting with the historical pattern of smaller and less severe fires in the region. This is especially critical for unmanaged forests, where the risk persists until successful regeneration occurs. Post-disturbance areas, whether managed or unmanaged forests, lead to the domination of grass vegetation posing a significant risk for low-intensity but rapid-spreading fires into neighbouring forest areas. The experiences in the Bohemian Switzerland National Park and the wildfire in 2022 taught that wildfire always needs to be considered as a consecutive risk whenever large-scale damages of windstorms or bark beetle outbreaks occur. Roman stresses the importance of proactive forest risk strategies, integrating conservation areas into plans for effective mitigation. The prevalence of spruce and pine monocultures underscores the ongoing danger, urging the adoption of preparation and prevention strategies as standard practice, including public awareness campaigns and the protection of Wildland-Urban Interface (WUI) areas. Specific recommendations included requiring special permissions for construction near forest stands and prioritizing fuel reduction efforts near WUI areas.

**FIRE AS A NATURE CONSERVATION TOOL – EU PERSPECTIVE.** *Adrian Tišťan, DG Environ - Land Use and Management Unit, Forest Team, European Commission*

Adrian Tišťan, from the land use and management unit within DG Environ, started his presentation on synergies across EU regulations with a reference to the “[Land-based wildfire prevention, principles and experiences on managing landscapes, forests and woodlands for the safety and resilience in Europe](#)” (2021) guideline, which promotes prescribed/controlled burning as one of the measures to mitigate wildfire risk and severity. It highlighted several EU projects, such as LIFE Taiga and LIFE Montserrat,





that utilize prescribed burning for biodiversity enhancement and fire prevention. Following this, key messages and reflections on EU legislation were discussed. For instance, it was noted that the Habitats Directive does not preclude the use of fire as an effective conservation measure, and there is an opportunity within the implementation of the proposed Nature Restoration Law to implement fire as a tool for ecosystem restoration. Additionally, it was pointed out that under the Land Use, Land-Use Change and Forestry (LULUCF) regulation aiming to reduce emissions by 2030, prescribed burning could potentially mitigate the intensity of megafires if emissions from avoided fires were considered. The presentation stressed the need to enhance the training of firefighters in member states in practices such as prescribed burns. In conclusion, several obstacles within EU member states were identified, including the need to enhance the experience and expertise, social acceptance issues, and insufficient integrated governance and communication between expert groups.

## DISCUSSION

The discussion started off with a question raised regarding society's perception of the role of "good fire" in biodiversity conservation and forest health, as it is often overshadowed by the immediate negative impacts of wildfires. It was pointed out that prescribed burns should be targeted at areas needing habitat restoration rather than old-growth forests, which are rich in biodiversity and can be harmed by fires. On the other hand, repeated fires could potentially increase the resilience of trees and landscapes to future fire events, enhancing long-term forest health. Proper regulation is crucial to distinguish between beneficial and harmful uses of fire. There was also a question about the classification of Natura 2000 habitats to determine if they are fire-adapted, neutral, or sensitive, and whether the appropriate fire frequency and seasonality have been defined for fire-adapted habitats. A partial answer indicated that fire is included as a necessary factor for some habitats, especially bush habitats. It was noted that ground fuel and regrowth are the main factors influencing fire behaviour, and that bark beetle outbreaks, which mainly impact tree crowns, do not significantly alter fire behaviour. However, wind outbreaks do increase fuel density on the surface.

During the discussion, the importance of social acceptance and awareness of the role of fire in the ecosystem and the contribution of fuel management for wildfire risk reduction was underscored. The main limiting factors for implementing prescribed burns in Natura 2000 areas (in Spain and beyond) include a lack of understanding of the effects of fire on different habitats and species, as well as public opinion regarding fire as a conservation tool. It was explained that there is generally a knowledge gap across society, including academia, on recognizing the beneficial role of fire in terms of forest dynamics, health, and associated biodiversity values. For instance, in northern Europe, where nature conservation often takes precedence over fire prevention, there is significant resistance to implementing fire prevention projects or measures at the local level. In northern territories, fire is primarily used for ecological purposes, while in southern territories, it also benefits grazing purposes. The forest industry's role in preventing the expansion of grazing areas was noted, due to its need for raw materials competing with the use of fire for fuel management.





The role of social science was mentioned as critical in understanding and addressing these issues. Social science can help gauge public perception, inform policy, and develop strategies that consider social dynamics. The question was raised about the most effective measure in promoting the planning and establishment of fire-resistant communities and territories. Two options were proposed: improving coordination between territories to enhance integrated fire management or focusing on community-driven initiatives like Firewise programs and local fuel treatments. Concerns were raised about the impact of rural depopulation and the abandonment of traditional practices like grazing. These changes can affect the availability of young people to conduct controlled burns and other fire management practices. There was a call for increased knowledge to precisely identify where action is needed and the opportunity to integrate fire as a tool for biodiversity conservation within protected areas, addressing legal, technical, cultural, and managerial aspects.

The conversation then shifted to specific forest management practices for nature conservation. Priority should be given to the removal of accumulated fuel in protected areas where fuel management is limited due to their status, as it is recommended to keep fire out of these territories. It was highlighted that industries based on fast-growing tree plantations (e.g., for timber, paper, pulp) need regulations to limit unsustainable practices that can exacerbate fire risks. Science indicates that mixed forests, especially those with more deciduous trees, are more resilient to forest fires than monocultures. Current practices of clear-cut forestry and monocultures, particularly of spruce trees, are considered unsustainable. There is a call to shift towards selective logging and forests with mixed natural species like beech, oak, and *Abies alba*. A lesson learned from bark beetle outbreaks is the need to prioritize multi-age forests with various tree species, including more European beech and *Abies alba*, and to reduce the use of clear-cuts in favour of natural regeneration. Changing mentalities and practices in forest management is a long-term process. Movements like Pro Silva in the Czech Republic are gaining attention and slowly influencing forester education and societal perspectives. It was also noted that the current climate change context poses both challenges and opportunities for wildfire risk management and nature conservation. Some participants suggested that climate change might accelerate changes, leading to greater societal awareness of fire as a management tool and fire ecology. While it may complicate management efforts, it also presents opportunities to innovate and adapt. Advanced technologies for fire risk monitoring and mitigation, such as versatile, precise, and wear-free laser scanners and devices with LiDAR technology, were mentioned as potentially valuable tools for long-term fire risk monitoring and mitigation.

The final reflection by the public was about how to better connect the forest and wildfire risk management community with nature conservation and fire ecology communities. To effectively leverage fire as a tool for both wildfire risk management and nature conservation, it is essential to foster better connections and collaboration among all three communities. Each of these groups brings unique perspectives, expertise, and goals that, when integrated, can lead to more comprehensive and sustainable fire management strategies. Finally, there was an emphasis on the need for northern countries to learn from the fire management experiences of southern countries through knowledge transfer initiatives.





## 5. Final remarks

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The following points summarize the main highlights of the webinar:

- Social acceptance plays a key role in using fire as a tool for nature conservation.
- In terms of academia, in Europe (compared to North America for instance), there is generally a knowledge gap regarding the natural fire regime in many forest landscapes. This gap adds difficulties to integrating fire and fuel management practices aimed at reducing wildfire risk while simultaneously restoring forest ecosystems and associated biodiversity.
- There is a need to better understand and recognize the effects of (wild)fires in protected areas.
- Nature conservation policies need to better integrate wildfire risk management options.
- Opportunities to implement fire as a nature conservation tool should be promoted within various planning tools, within and beyond protected areas.
- Knowledge and expertise on wildfire risk management and prescribed burning are available at the EU level, and its exchange may help to share good practices and lessons learned based on evidence.
- Globally, there is a gap on the effective integration of wildfire risk into spatial planning, involving protected areas and Natura 2000 sites and their inter-linkages with the rest of the land values (urban and critical infrastructures, other ecosystem services, etc.).
- Full-spectrum stakeholder integration, collaboration, and coordination should be promoted, from farmers and landowners to scientists and decision-makers, under justice and good governance principles.
- Other natural risks that could trigger cascading or accumulative reactions and increase wildfire risk should be considered through proactive forest multi-risk strategies, integrating biodiversity restoration and conservation objectives into forest and landscapes management plans.
- Knowledge and intersectoral communication regarding wildfire issues at the EU member state level should be increased, creating more opportunities to implement fire as a nature conservation tool within policies.

