

## The FireFlocks Project: Prescribed Silvopasture for Wildfire Risk Management

The FireFlocks project promotes forest management through extensive grazing to reduce the risk of wildfires. This case study has been implemented in the region of Catalonia (north-east Spain).



Sheep grazing a wildfire strategic area (north-east Spain)  
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Goats eating shrub fuels of a wildfire strategic area (north-east Spain)  
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### /// Context ///

In Mediterranean Europe the last few decades have been characterised by dramatic land use changes. The abandonment of farmland and reduced grazing have led to an increase in wildland areas. These changes in the landscape have contributed to a more aggressive spread of large wildfires (LWF) all over Europe. A small number of wildfires are responsible for most of the burnt area. These large forest fires represent a growing risk for society, as firefighting services are unable to deal with, despite the high budgets and investments allocated. Experts state that “extinction is the answer, but not the solution”, and that the latter depends on sustainable management of forests and landscapes.

Silvopastoralism is a common practice with high benefits for society (landscape conservation, fire risk management, and the

production of high quality meat and dairy products). But the presence of herds and shepherds is becoming increasingly uncommon, leading to the growth of fire prone forests. Thus, the presence of livestock in woodlands has become a shared common interest of owners, farmers, firefighters, environment rangers, and businesses willing to sell food products with an added value. All of this has motivated the project FireFlocks.

The number of participants and managed hectares has been increasing since 2016. Initially, there were 3 shepherds involved (pilot phase), in year 2021 there were 21 shepherds that formed part of the project in the province of Girona, and in 2024, thanks to the expansion in all Catalonia, there are 72 shepherds engaged in the project. Since 2016, the number of hectares that have been managed to address wildfire risk is 72.000ha.

### /// Solution for a Resilient Future ///

#### Reducing wildfire risk

The overall objective of the project is to reduce the risk of large forest fires through prescribed grazing, meaning grazing with predefined objectives and management aimed at achieving those goals. In general, the project’s livestock farmers graze strategic fire management points (SMPs) identified by the Catalan Fire Department. These SMPs, if properly managed, limit the spread of forest fires and provide an opportunity for control operations by altering fire behavior on the day of the fire. Therefore, FireFlocks promotes targeted grazing at these strategic points, connecting, supporting, and informing farmers about existing SMPs in their area. Subsequently, a prescribed grazing plan is agreed upon with the farmers, which is the document identifying grazing objectives.

#### Promoting bioeconomy and ecosystem services

Due to the additional effort required by farmers for grazing in these SMPs, the project also aims to promote bioeconomy in rural areas, valorizing the livestock profession and products derived from extensive livestock farming. To achieve this, the project has created a certification for products produced from participating herds, aiming to make the end consumer more aware of the positive impact of consumption habits on reducing the risk of forest fires. The main idea is not just to sell more products, but for consumers to be able to recognize, and economically value, products derived from prescribed grazing.

In parallel, the project is working to have both products and services produced by the herds recognized and compensated as a public service. Currently, the Department of Climate Action,

Food, and Rural Agenda of the Government of Catalonia has been offering an annual subsidy since 2018 for fire prevention actions. Payment depends on two variables: managed hectares and the category of those hectares in terms of fire prevention.

### Specific lines of work

The following lines of work are being developed in order to achieve large-scale implementation of the strategy:

- Establish a solid, useful and dynamic territorial base in SMPs and other fire risk management infrastructures.
- In this territorial base, locate and analyze existing agents, offering the opportunity to learn about and join the project, identifying and stimulating new distribution channels in the case of generating agri-food products, and receiving a payment for service for managing the vegetation in the strategic areas.
- Involve the competent administrations in the governance of

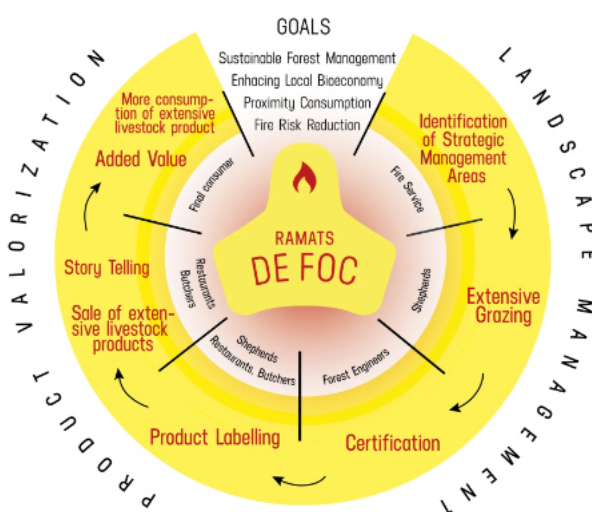
the project, in the fields of mapping, economic items, establishment of payment criteria for services, simplification and adaptation of the legislative and administrative bureaucracy to the reality of the sector.

- Locate and accompany the establishment of new livestock projects aimed at grazing and the management of strategic areas, increasing the current impact of the sector on the management of forest space.
- Generate social impact of the FireFlocks brand. Increase knowledge and social recognition of pastoralism and transmit the message to a large part of society through dissemination, awareness and education.
- Influence public policies that affect extensive livestock farming, specifically focused on fire risk management, for the defense of the values of human activities and ecological processes that favor the maintenance, conservation and sustainable management of the mosaic landscape.



FireFlocks logo

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FireFlocks methodology. From landscape management to product valorization

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## /// Always Moving Forward ///

The main drivers behind the reduction in extensive livestock farming have been the low competitiveness of products in a global market context, the intervention of more intermediaries between the farmer and the final consumer, a lack of young people interested in working in the extensive livestock sector, and a lack of policies promoting extensive livestock farming. Hence, a challenge of the project managers is to design an ecosystem service payment scheme to economically recognize the effort of shepherds grazing wildfire strategic areas.

As indicated in the Strategic Plan for Extensive Livestock Farming in Catalonia, the subsidies should transition to service payments, establishing a formula to calculate the ecosystem

benefit provided by the herds, allowing farmers to receive fair compensation. These payments should acknowledge that the work carried out by the herds, with specific objectives, is being done correctly and, therefore, warrants certification and economic compensation. All of this is done without the intention of making the operations dependent, as sometimes occurs in other lines of direct assistance. The integration of both strategies, the valorization of products and payment for the service, is possible based on the premise that these herds are included in both the primary sector, where they produce food and other products, and the tertiary sector, producing ecosystem services.

### Further information

- Nuss-Girona, S, Soy, E, Canaleta, G, Alay, O, Domènech, R, Prat-Guitart, N. 2022. Fire Flocks: Participating Farmers' Perceptions after Five Years of Development. Land 11: 1718. <https://doi.org/10.3390/land11101718>
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