

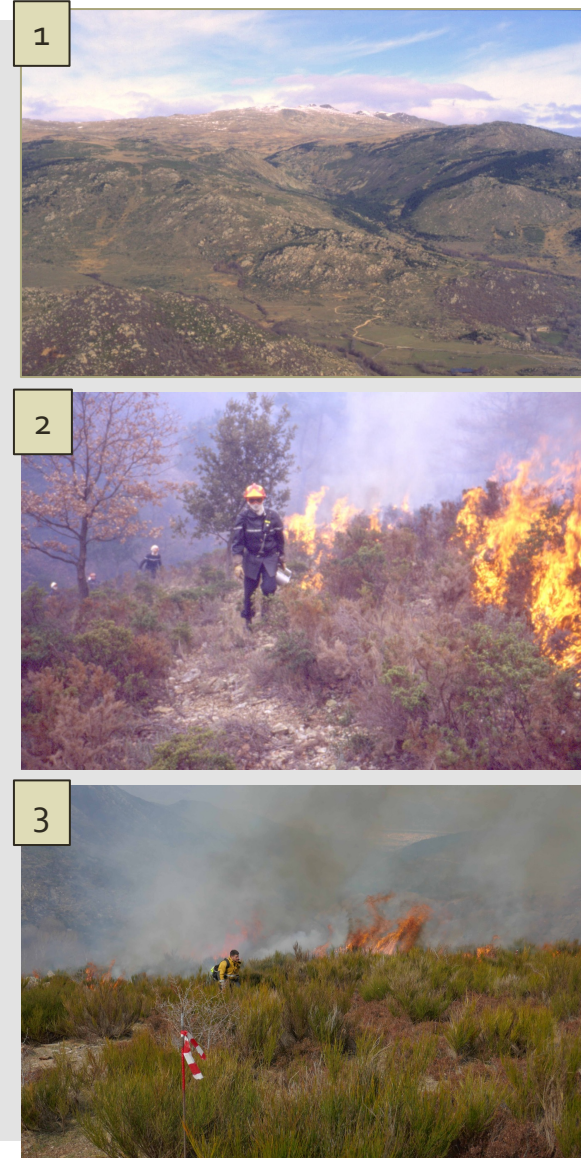
# Enveitg, France

## *Life through fire*

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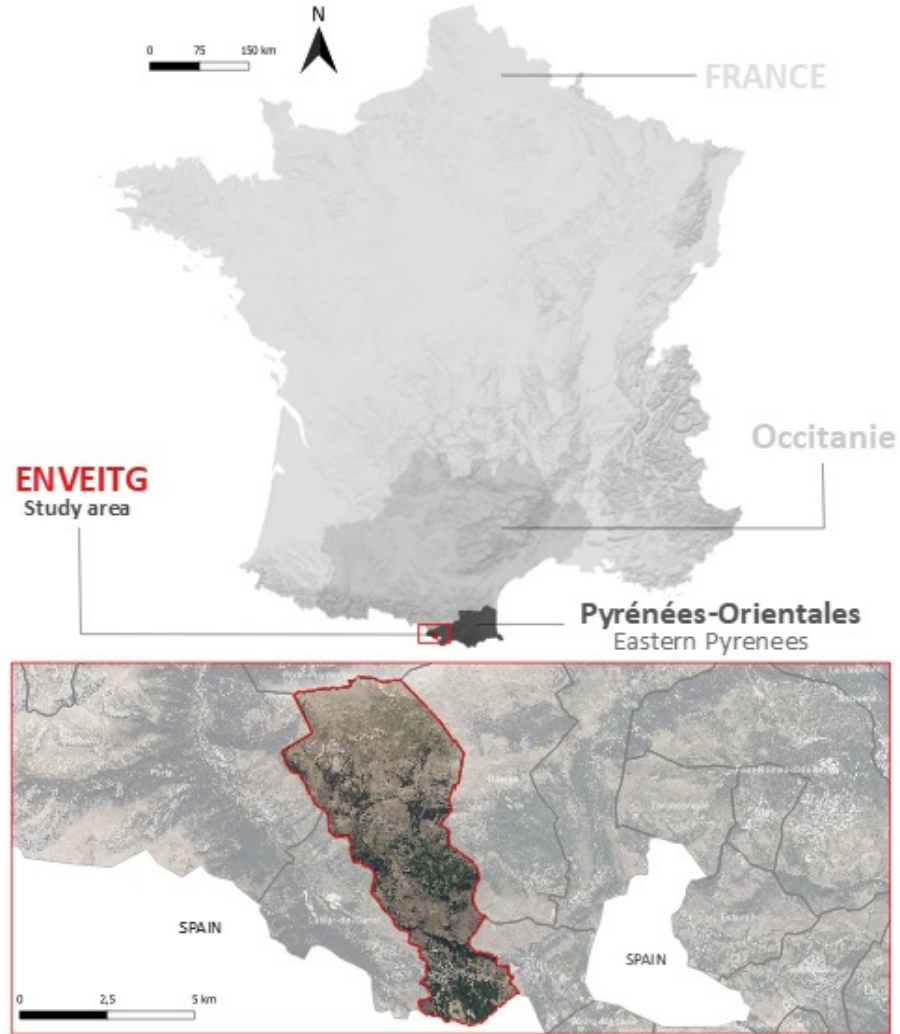


# ENVEITG



French Eastern Pyrenees

A small pastoral territory in the eastern part of the French Pyrenees



©M. Morel

- French administrative commune in the Occitanie region
- Southern slope of the Carlit massif
- 2 kms from the Spanish border
- Mean altitude 1200 m asl
- Min. 1179 m asl – Max. 2579 m asl
- **Commune: 3052 ha / The Mountain: 2000 ha**
- Population: 620 (2023)
- Within the Catalan Pyrenees Regional Nature Park
- Oro-Mediterranean climate



Enveitg Pasture lands dominate the Cerdanya plain and face the Sierra del Cadí massif peaking at 2900 m asl

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4. High pasture lands of Enveitg, 2022, ©Nicolas Poirier

ENVEITG



French Eastern Pyrenees

# ENVEITG

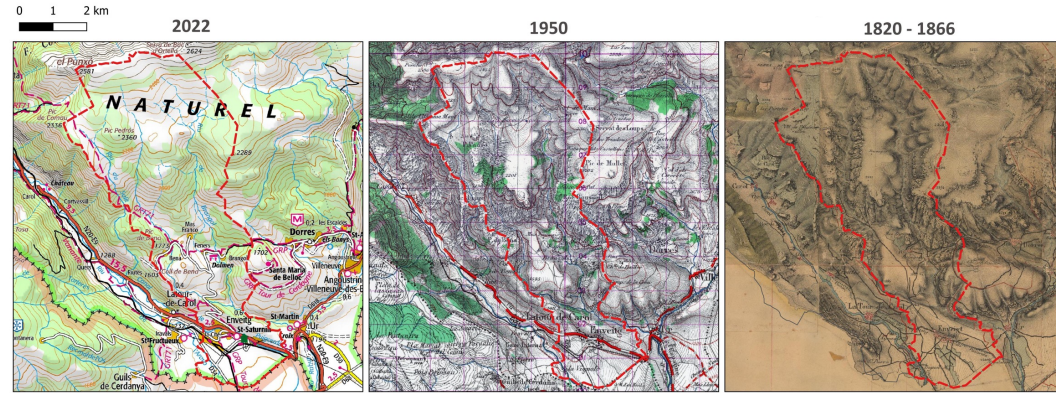
French Eastern Pyrenees

An open dominated landscape inherited from the 19th century

Open-dominated landscape with 9,1 % woodland

Open-dominated landscape with some woodland

Open landscape



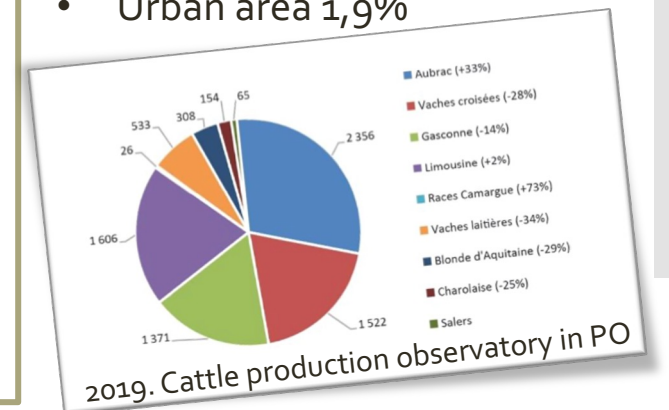
Use of environmental resources dominated by cattle farming



5. Enveitg, 2015, ©J.-P. Métaillé

## Current Land Use

- Shrub and/or herbaceous vegetation 55,1%
- Open land areas without or with few vegetation 20,4%
- Meadows 9,8%
- Woodland 9,1% (pinewoods and deciduous species)
- Agricultural area 0,1%
- Arable land 0,1%
- Urban area 1,9%



# A long history of pastoralism rising in the Early Neolithic



6. Excavation of the pastoral site 88, Pla de l'Orri, Bronze Age, ©P. Campmajo

*A Mountain well documented by archaeological researches*

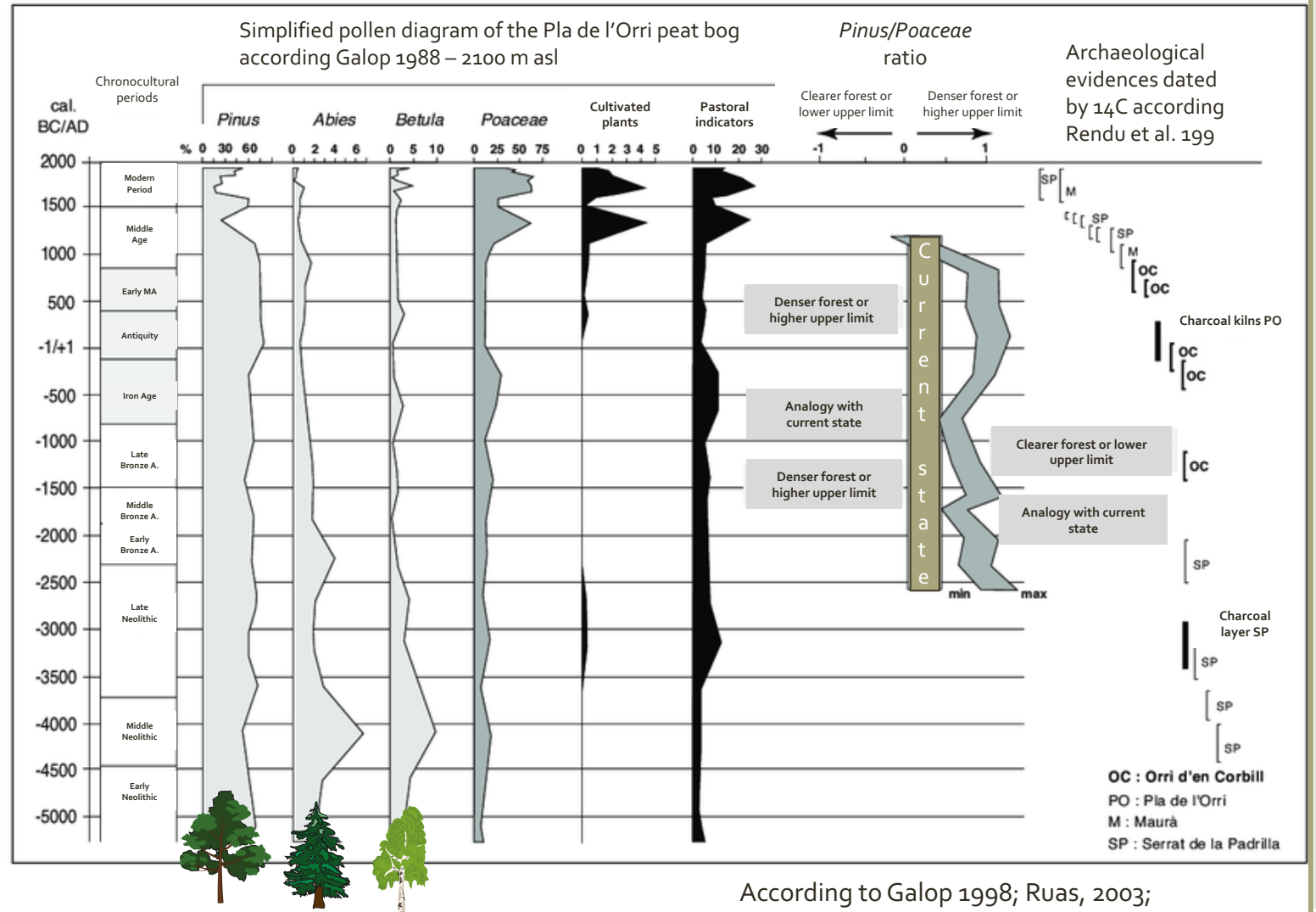
• **Rise of pastoral archaeology: Rendu, thesis, 2003**

- 271 structures inventoried: 6 rock shelters, 98 cabins, 9 milking corridors, 58 enclosures, 64 isolated walls, 6 terraces and 30 undetermined structures
- 16 structures extensively excavated
- 42 radiocarbon datings from Early Neolithic to current day
- Neolithic and Chalcolithic sites located from 2100 to 2300 m asl.



A story deeply connected to pastoralism and agriculture since the Neolithic

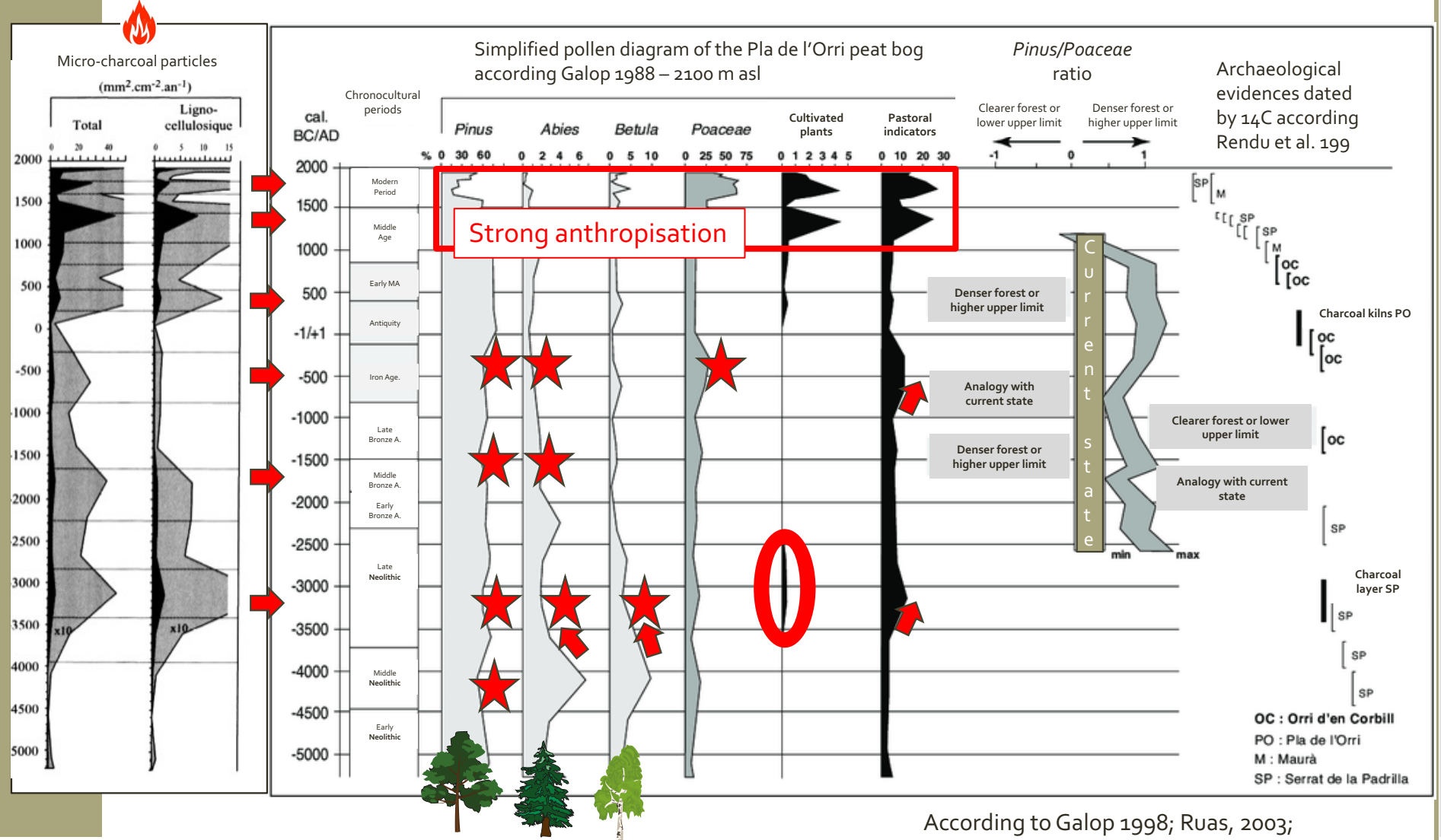
Long-term history of vegetation cover and anthropisation processes reconstructed





# Fire used from the Neolithic to open and shape the landscape

Fire and agropastoral practices closely linked



According to Galop 1998; Ruas, 2003; Bal, 2006; Bal et al., 2010 + Vanni re et al., 2001

Today:  
spontaneous  
recolonisation  
by heathland  
and woodland  
is progressing

7



8



- **1300-1500 m asl:** deciduous woodlands with *Corylus avellana*, *Fagus sylvatica*, *Fraxinus*, *Betula*
- **1500-1700 m asl:** meadows are recolonized by *Cytisus purgans*, *Juniperus communis* and *J. nana*, *Ilex aquifolium*, *Rosa canina*, *Salix*, *Pinus sylvestris* and *P. uncinata*, *Rhododendron ferrugineum*
- **Between 1900 – 2100 m asl:** *Pinus uncinata*, *Juniperus communis* and *J. nana*, *Cytisus purgans* and *calluna vulgaris*
- **Around 2100 m asl:** patches of *Juniperus communis* and *J. nana*, *Pinus uncinata* and *Cytisus purgans* in grasslands

7+8: Enveigt, 2015, ©J.-P. Métaillé



# Reforestation in the neighbouring Carol Valley

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Latour-de-Carol  
1910-1990

10



A spectacular return of  
woodland in less than  
100 years

# In Enveigt as in Eastern Pyrenees, pastoralism survives despite...



11+12: Enveigt, 2015, ©J.-P. Métailié

- Rural depopulation (began in the 1830s and spread in 1880-1890)
- Development of industrial agriculture (1945-1975)
- Abandonment of agricultural practices
- Disappearance of traditional burning practices
- Fallow land & rewilding
- Climate change
- Current local community disconnected from land use/breeding

Horses in  
ancient  
agricultural  
lands: the  
« *devèsa* »

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13: Enveigt, 2002, horses in the devèsa of Brangoli ©B. Lambert

Fire: the main tool to manage and conserve cultural agropastoral landscape & grassland resources

14



15



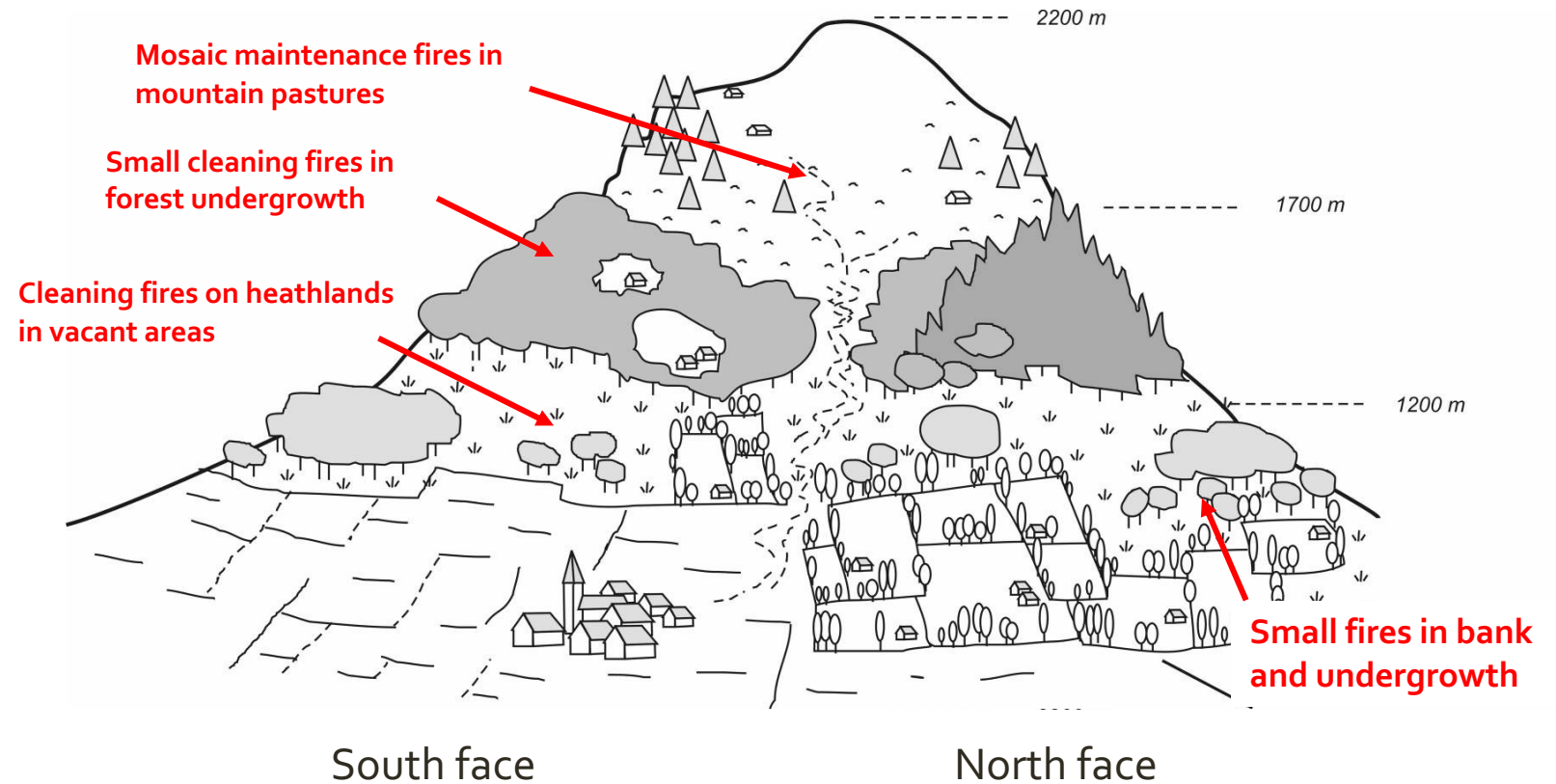
14+15: Enveigt, 2012, Prescribed burnings, ©B. Lambert

- **PO Prescribed burning Unit** is the first one created in the Pyrenees - **1987**
- It is managed by a pastoral structure « Société d'élevage » with the collaboration of:
  - ONF (French National Forestry Office);
  - From 2005: SDIS (Departmental fire and rescue service);
  - Civil Security Unit (UIISC)
  - Departemental commission for controlled burnings
  - RTM service
  - Nature reserve & environmentalist associations

# The traditional burning practice « *écobuage* »

Traditional way until the 1950-1970s:

- During the winter
- Very small open areas and isolated patches of heathland
- Small cleaning fire in forest/woodland patches undergrowth
- Transmitted from father to son



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In several regions of the central and western Pyrenees, the traditional way has continued



16: Traditional heather burning, 1980, ©J.-P. Métailié

Today: in a context of ecological crisis, a practice strictly controlled & institutionalized

17



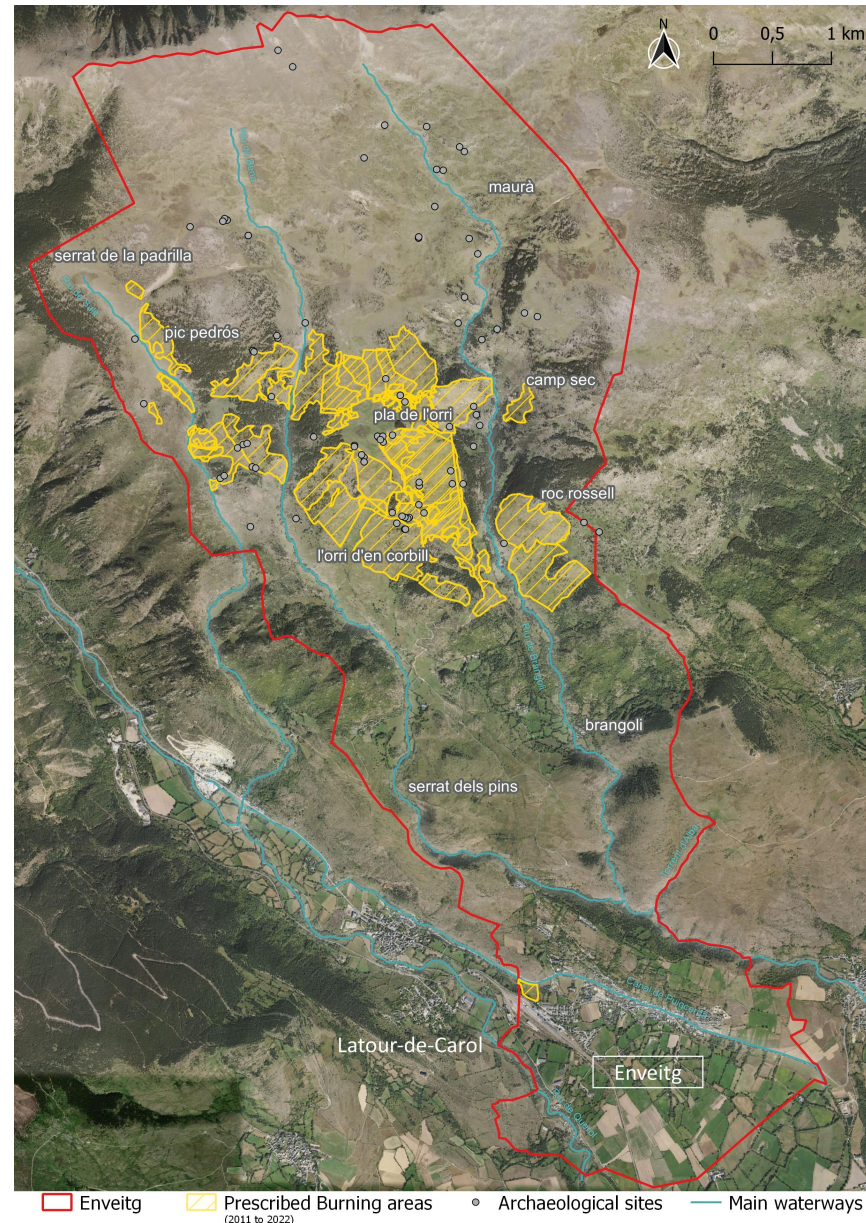
18



17: Enveigt, Burnings, ©B. Lambert; 18: Burning and child©B. Lambert

- Traditional practices adapted to face global change (growing risk of fire, air pollution control, biodiversity conservation etc.)
- Framed and organised by professional firefighters
- Major security resources and bypass itinerary
- Training for the local people (mainly breeders; the main users of the Mountain)
- Communicate, reassure local population

Enveigt:  
contemporary  
prescribed  
burnings  
concentrated  
in the lower  
part of the  
summer  
grazing area



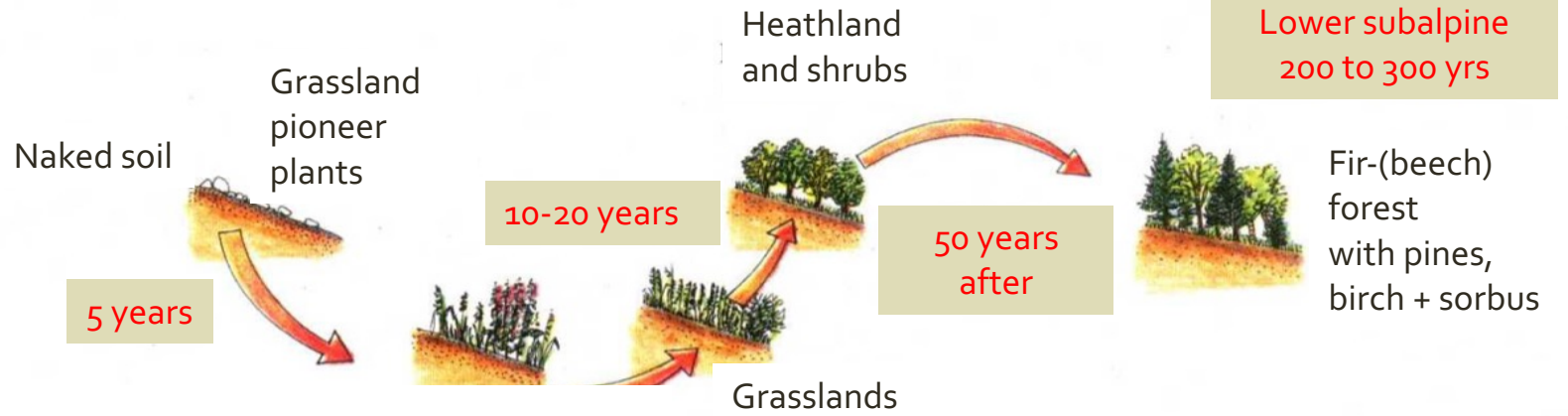
Prescribed burnings in Enveigt from 2011 to 2022, ©M. Morel

- Between 1600-2200 m asl
  - Strong woody vegetation recolonisation dynamic from 1970s
- > Before farming, an area dominated by a coniferous forest with fir and pines
- Fire controls rewilding but the main woodland patches present in the 1950s map have been retained
  - Fire allowed the discovery of unknown archaeological sites

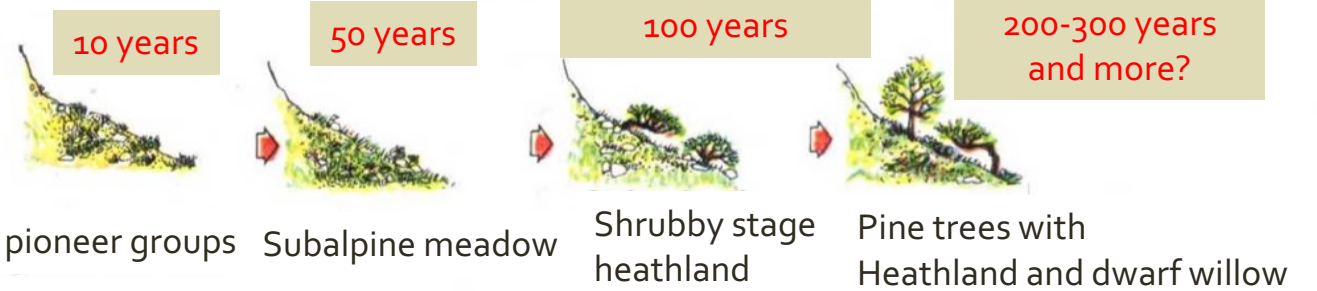


The dynamic of forest recolonisation is naturally faster below 2200m asl.

1500 to 1800 m (mountain Level) & 1800 to 2200 m (lower subalpine)



Around 2200-2500 m  
An evolution requiring several centuries



At more than 2500-2600 m (alpine level)



Burnt  
heathland  
patches in the  
Pla de l'Orri  
area - 2100 m  
asl

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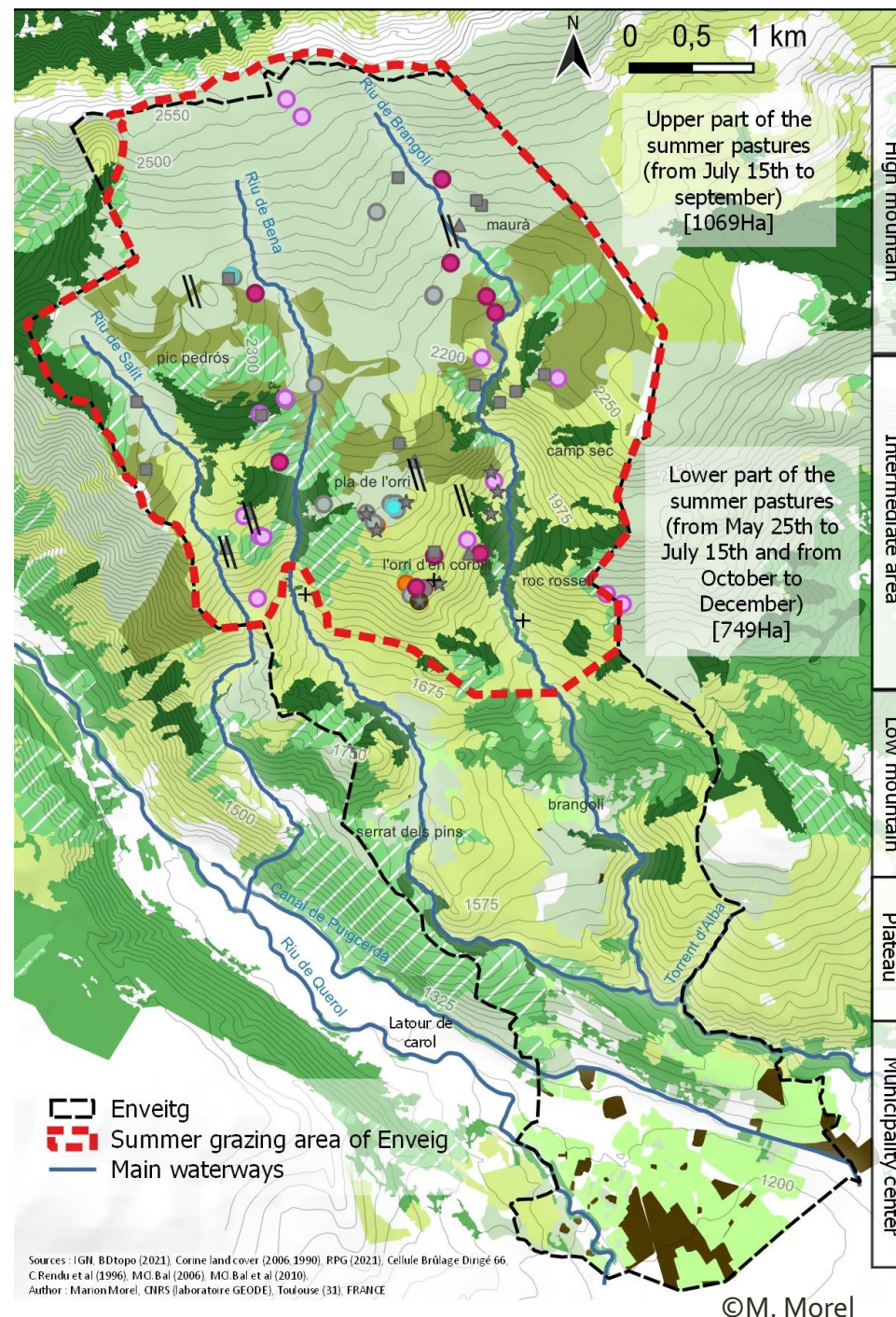
19: Enveitg, Pla de l'Orri, 2001, ©J.-P. Métailié

Large 19th c.  
enclosure  
marking  
transition to  
large-scale  
cattle rearing



20: Enveitg, Pla de l'Orri, 2001, ©J.-P. Métailié

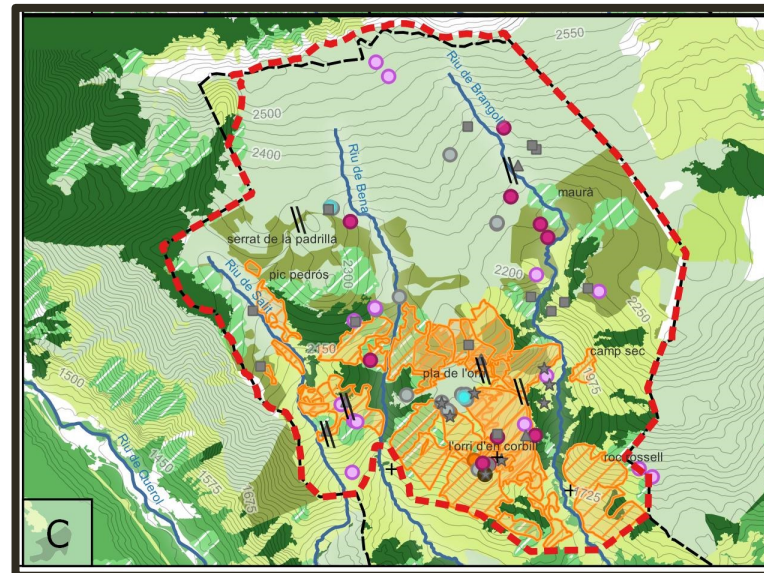
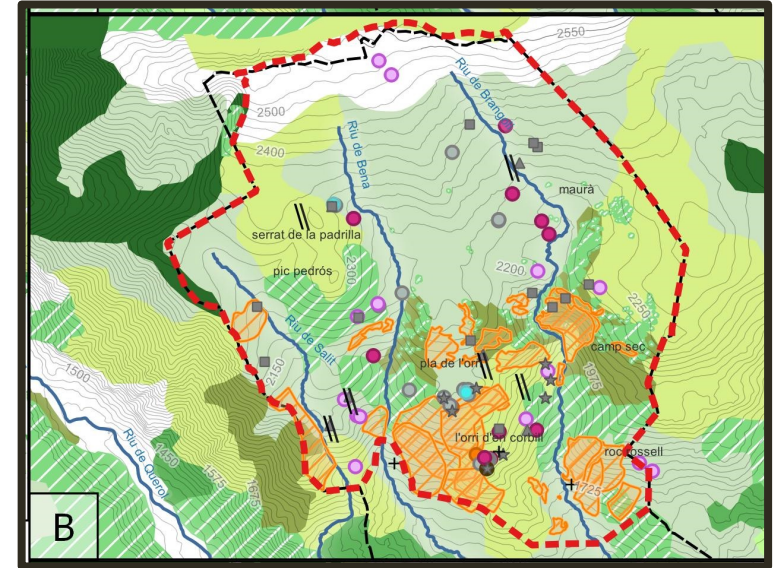
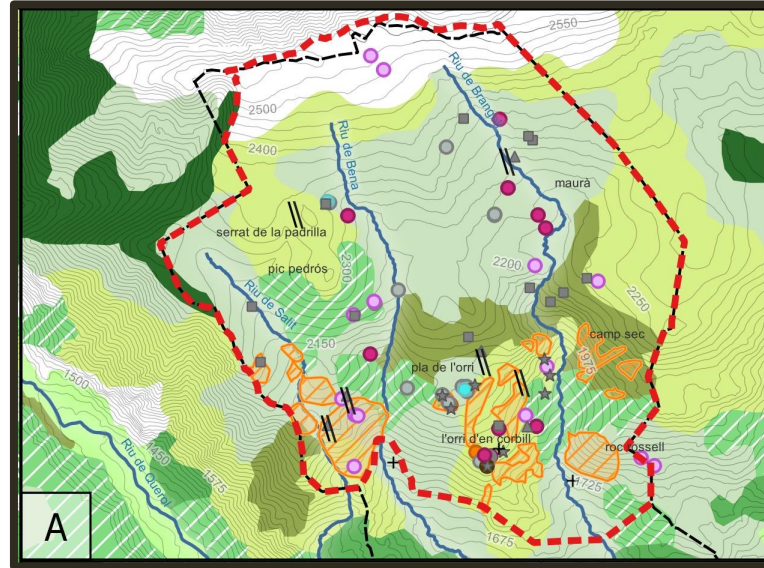
# Mapping the space lived and perceived & changing the negative perception of burnings



## Mapping cultural and living heritage

- Current land use compared to historical data
- Highest concentration of remains in the lower part of the summer pasture area where the forest is coming back
- The oldest sites (Neolithic, Bronze Age) are also concentrated in this area

# Mapping of burnings through time with the main practitioners



### Land use

- Heathland
- Dominant heathland + grassland
- Dominant grassland + heathland
- Grassland
- Closed deciduous forest
- Closed coniferous forest
- Open mixed forest
- Various agricultural areas

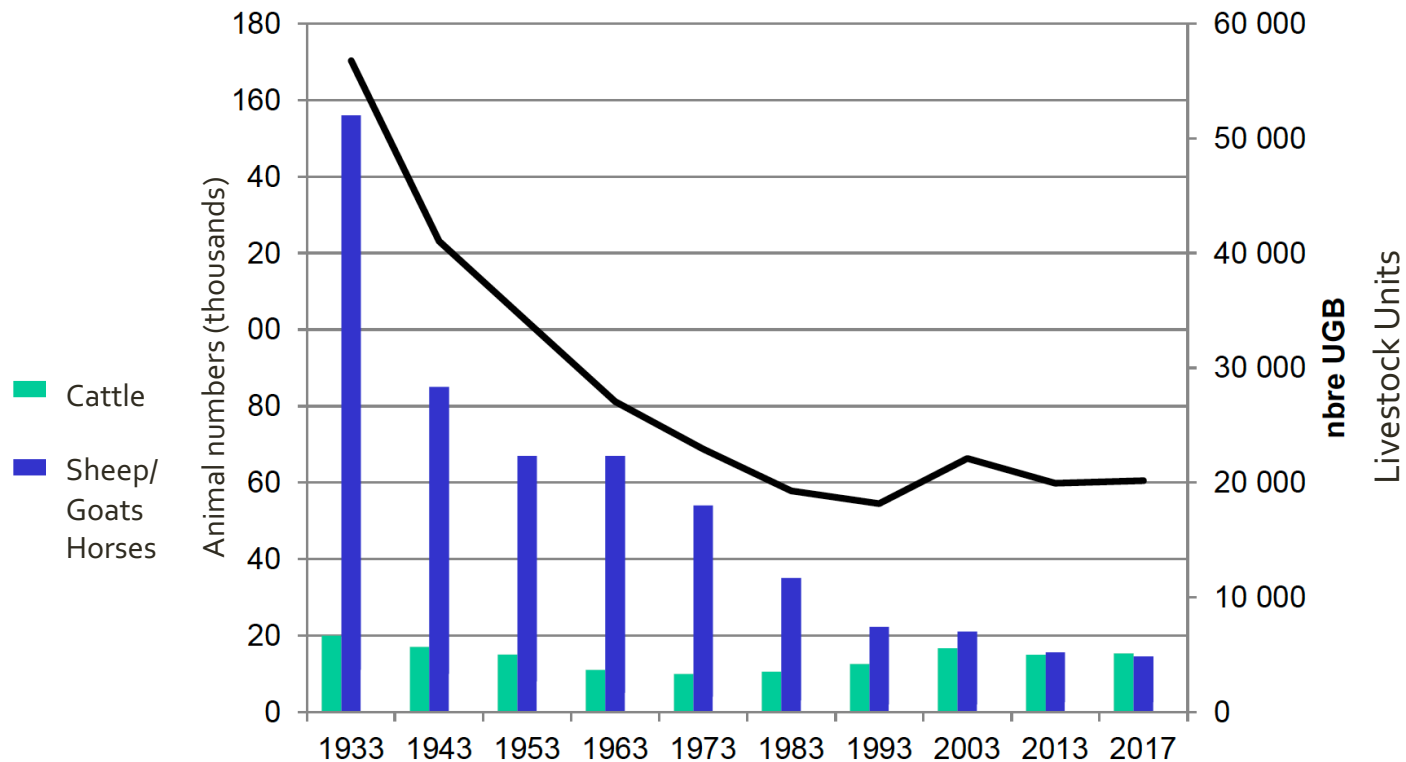
 Prescribed burning areas

- A. 1990 to 1999 – 14 burnings – 126 ha
- B. 2000 to 2008 – 23 burnings – 291 ha
- C. 2011 to 2022 – 27 burnings – 394 ha

- Significant increase in the area burnt
- Uppert part of the summer Pasture remains unburnt

## Changes in domestic livestock in the Pyrénées-Orientales

Intensification of burning to compensate for declining grazing pressure



In particular sheep/goats and horses!

# Historical periods of fire practices and socio-cultural background

according Métailié, 2006

TIME	PRACTICES	KNOWLEDGE	RULES	SOCIAL ACTORS
From Neolithic to 18th c.	Building of landscape: slash and burn cultivation, clearing fire in forests, pastoral fire in pastures and moors	Vernacular	Local	Peasant society
19th c.	Stabilization of landscape, disappearance of agricultural fire, pastoral fire exclusive	Opposition between local knowledge and scientific knowledge	Local rules vs. National rules	State engineers and administration
20th c.	Agro-pastoral crisis, fallow lands spreading, degradation of common fire practices	Crisis of local knowledge, increasing power of technical and scientific knowledge	National and European	Multiple protagonists
21st c.	Use of fire for global land management <b>Difficulties</b> due to changes in local society, climate and vegetation changes	<b>Adaptation of local knowledge</b>  Generalization of prescribed burning	European?	Multiple protagonists on European scale?

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- 14-16th June 2023: Sharing IRIS results with stakeholders at the BD and DFCI technical days
- Integrating Cultural Heritage in the burning management strategy
- Facilitating the social acceptance of burning using Cultural Heritage

22



23



21, 22, 23:  
2023 BD and DFCI  
technical days,  
©M. Morel

Sharing the  
history of uses  
and practices  
with  
stakeholders &  
practitioners



# Cultural Hiking Trail Project for sharing Cultural Heritage with people & mountain users

- 13.7 km
- Altitude: 1600 to 2350 m
- Ascent: 700 m
- Negative ascent: 700 m
- Duration: 6 to 7 hours



- 1 Hamlets
- 3 Cattle yard
- 4 Cowherd's hut and view of *devèsa* de Brangoli
- 5 Ancient cultivation terraces
- 6 Pla de l'Orri hut
- 7 Sheep hut and pen
- 8 Pla de l'Orri Peat Bog
- 9 Carlit des Mouillères peat bog
- 10 Hut, milking corridor and pen
- 12 Modern Hut « Roc Grimau »
- 13 View of burnt areas
- 14 View of *devèsa* de Bena

Thanks for  
your attention!

