



Mountains in Symphony:

Rewilding the Open Summer Pasture Mosaic for Cohabitation in the Pyrenees

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LANDSCAPE ARCHITECTURE OF REWILDING (LAR)
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An aerial photograph of a mountain valley in the Pyrenees. The landscape is characterized by rolling hills and valleys. The upper slopes are covered in dense forests with vibrant autumn foliage in shades of orange, red, and yellow. The lower slopes and valleys are dominated by green pastures, some of which are divided into fields by stone walls. A small cluster of buildings, likely an abandoned village, is visible in the middle ground. The foreground shows a rocky, grassy slope. The overall scene depicts a transition from open mountain pasture to forested land.

The open mountain pasture of the Pyrenees is closing.

Gouters summer pasture village abandoned in 1960s,
Ariege, the French Pyrenees.
Source: Imaged by Patrice Telsseire-Dufour

Declined Open Mountain Pasture



A shepherd is moving flocks across a summer pasture.
Val d'Azun, France.

Source: ©E.Follet(2014).

Existing Rewilding



A 2005 ground photograph shows forest-edge encroachment at the lower edge of summer pastures, Hountas, Gèdre, Pyrenees.

Source: Parc national des Pyrénées. (2012). Une cartographie des paysages – Parc national des Pyrénées, p. 64.



Problem bear M129 who gets too close to human areas, Auzat, Ariège department, France .

Source: Association Pays de l'ours (2023).

A Question of Space



Farmers and veterinarians are examining the carcasses of sheep that were found dead, which were likely killed by a bear, Cauterets, Hautes-Pyrénées, France.

Source: L. Dard, Agence France-Presse, 2019, published in Sciences et Avenir.



A flock of sheep on summer pasture, Larrau, Pyrénées-Atlantiques

Source: AFP (2019), in Sciences et Avenir, "Ovins vs ours : la cohabitation dans l'impasse après un été meurtrier."



Killed bear 'caramelles' in conflicts in Ariège area 2021, Toulouse Natural History Museum, France

Source: Imaged by Agence France-Presse via Getty Images

Research Question

How can a rewilding approach that repositions humans as cohabitants inform a new configuration between evolving ecological processes and continued cultural legacies in the Pyrenees' transforming landscape?

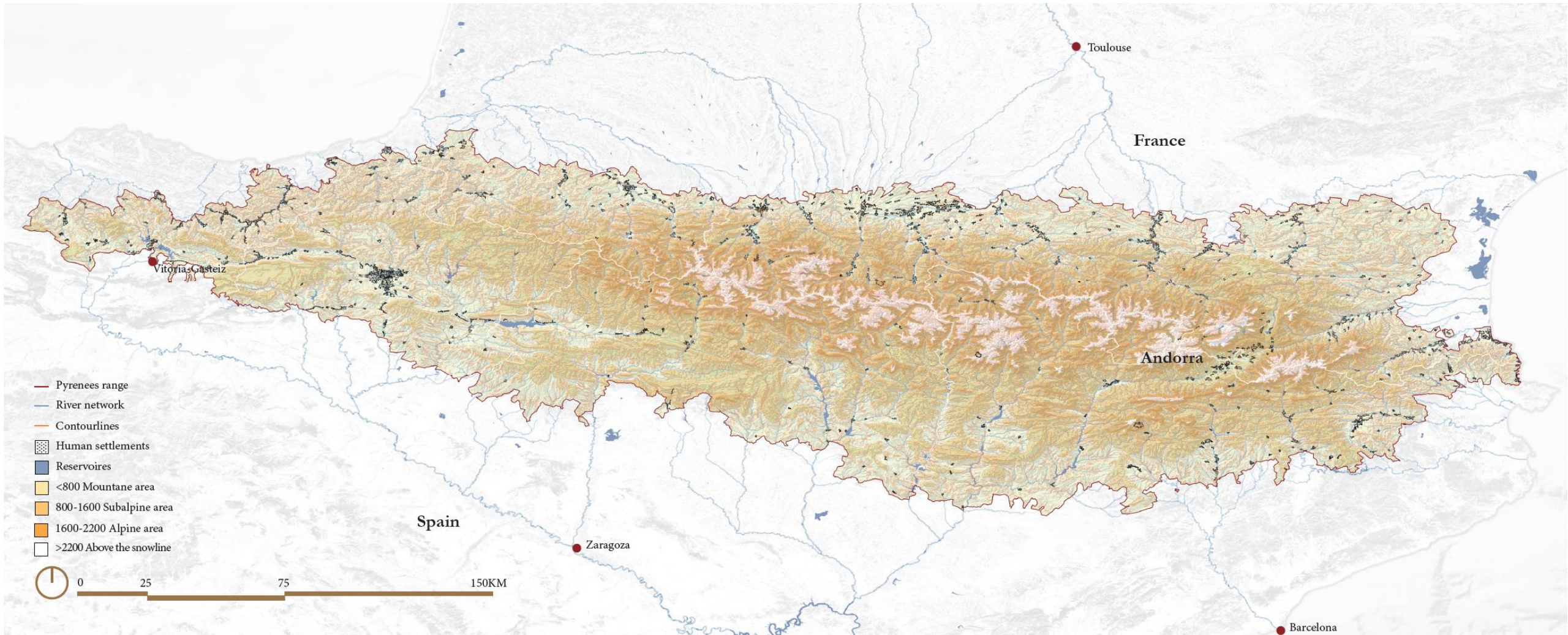
II. Diagnosis: What the Mountains Hold



A cave painting of prehistoric herbivores in the Pyrenees
Grotte de Niaux, Ariège, France
Adapted from R.Kann(2025)

II. Diagnosis: What the Mountains Hold

Altitudinal Zonation of the Pyrenees



II. Diagnosis. What the Mountains Hold

Transhumance Rhythms

Flocks in Spring/Autumn pasture



Mixed forests



A shelter in summer pasture



A Snowmelt creek



Terrace farmlands



Human settlements



800-1600 Subalpine area

Spring/Autumn pasture

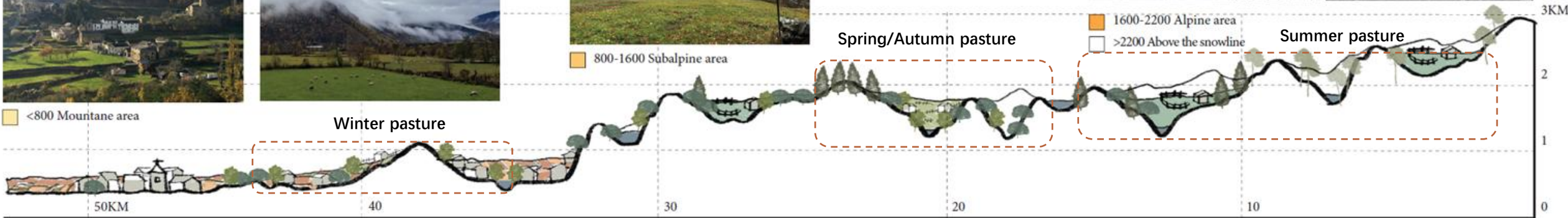
1600-2200 Alpine area

>2200 Above the snowline

Summer pasture

<800 Mountane area

Winter pasture

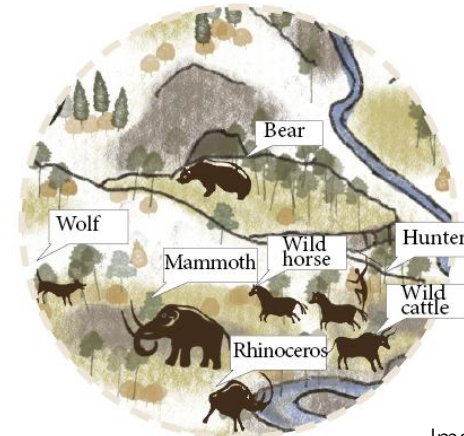
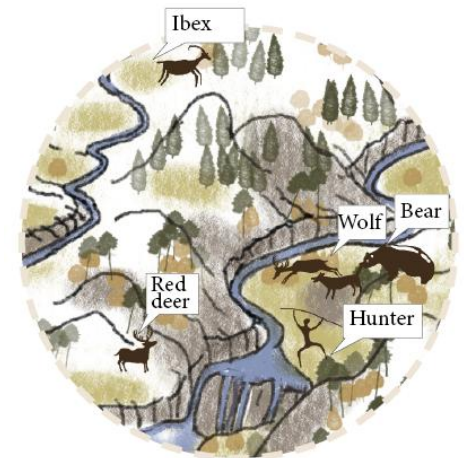
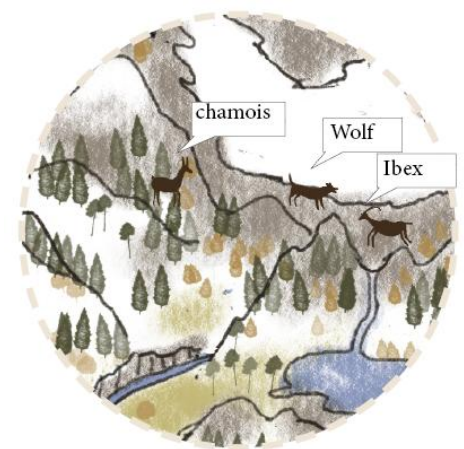
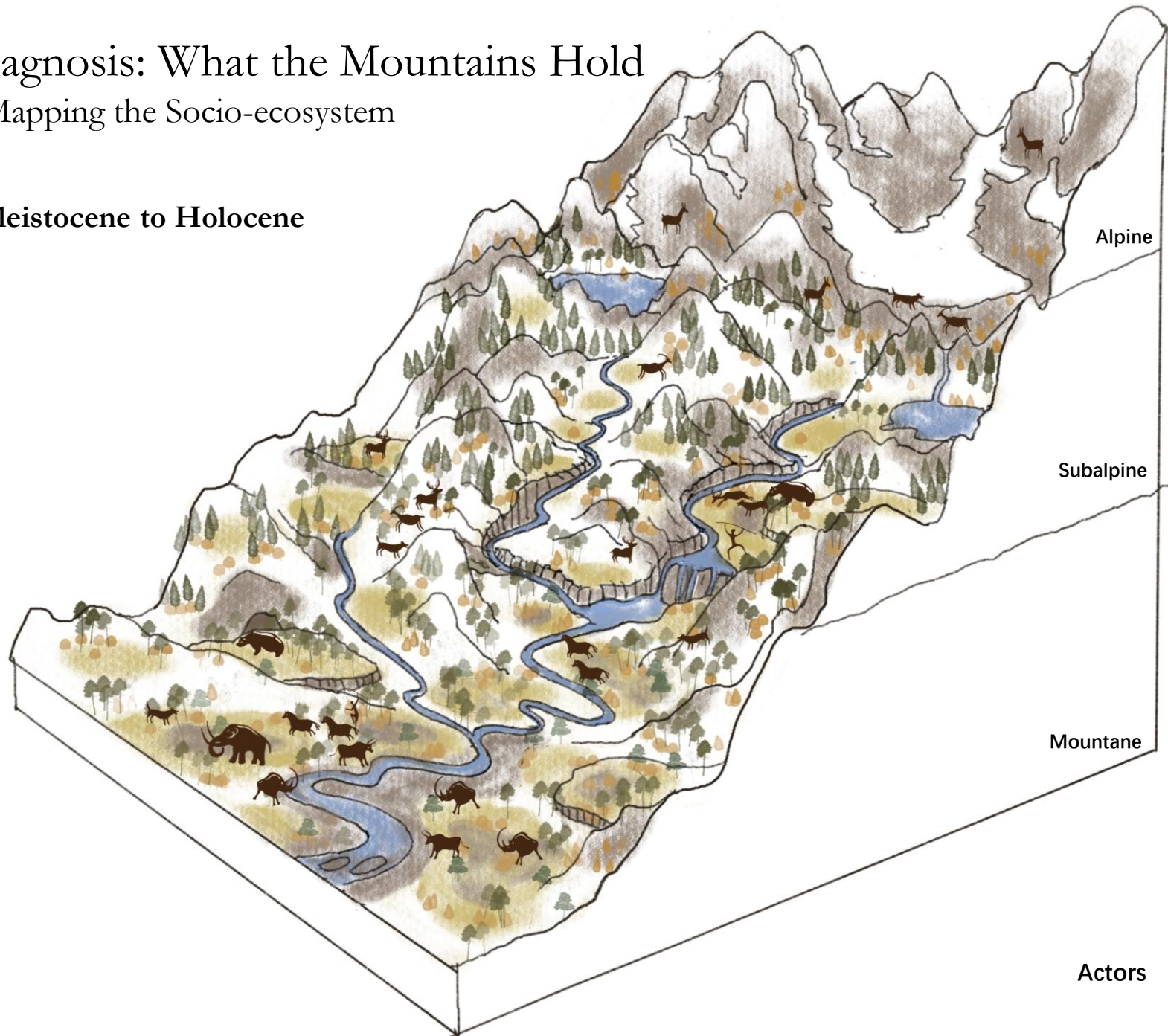


Imaged by author (2025)

II. Diagnosis: What the Mountains Hold

Deep Mapping the Socio-ecosystem

From Pleistocene to Holocene

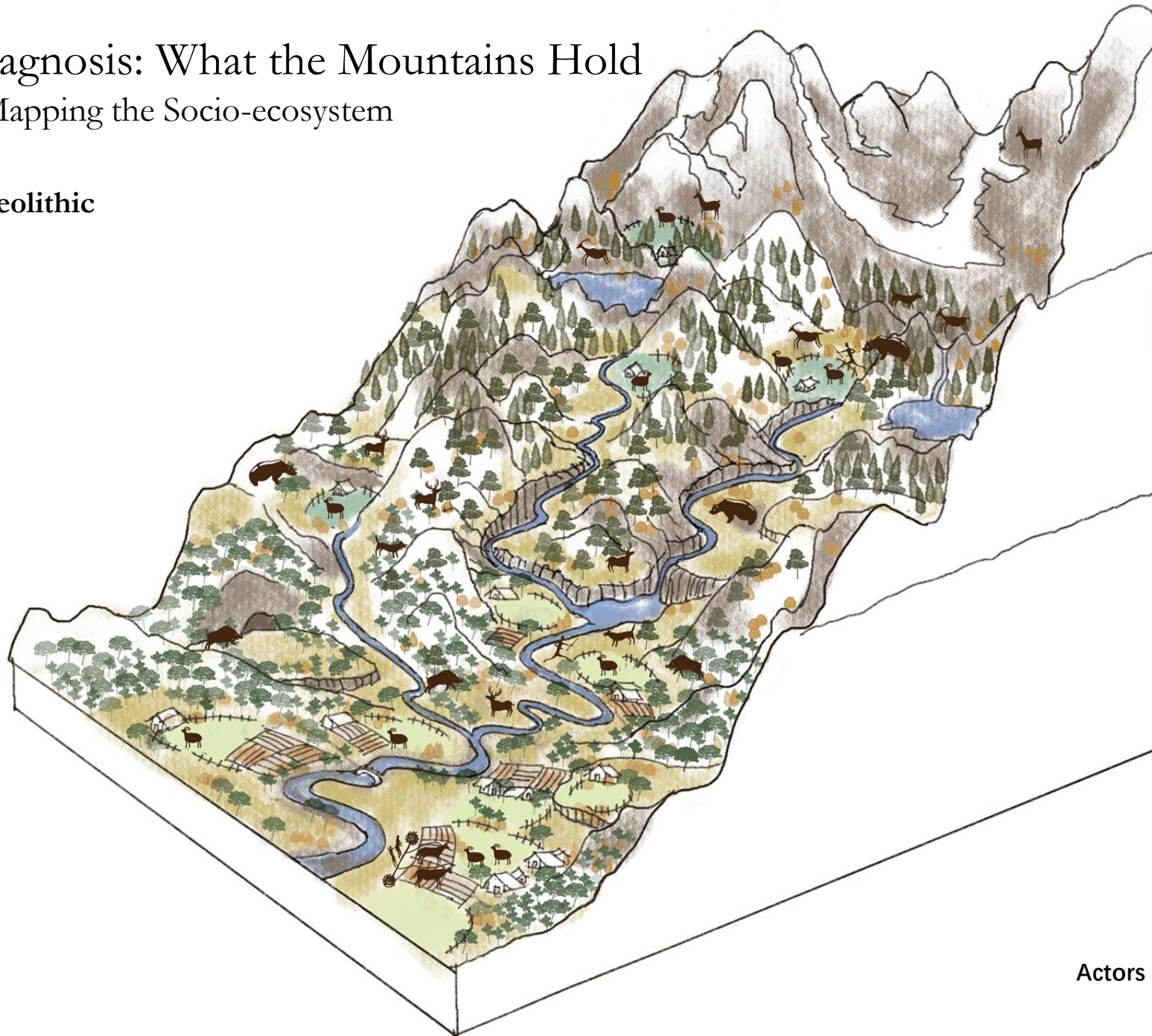


Actors

II. Diagnosis: What the Mountains Hold

Deep Mapping the Socio-ecosystem

After Neolithic

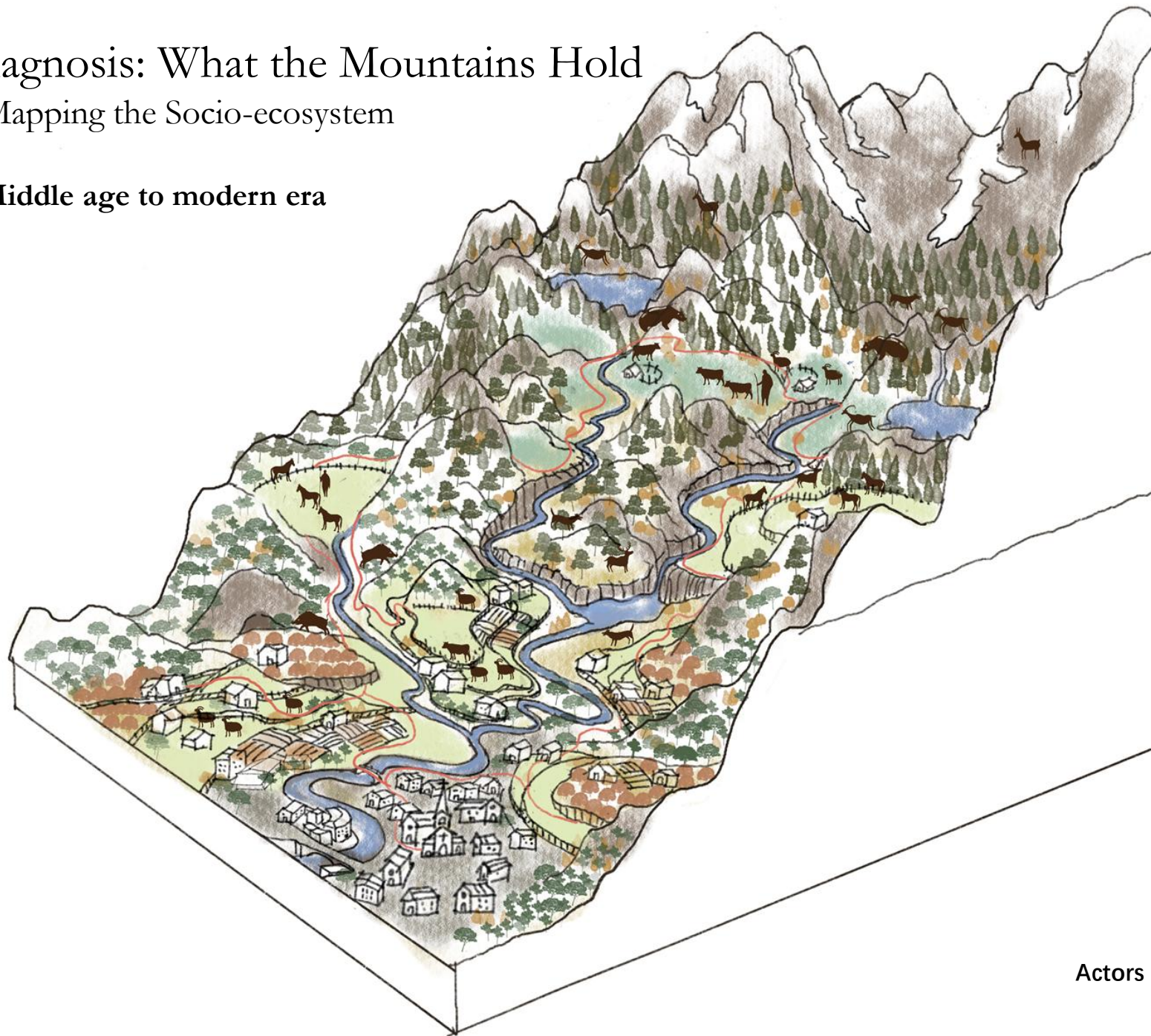


Actors

II. Diagnosis: What the Mountains Hold

Deep Mapping the Socio-ecosystem

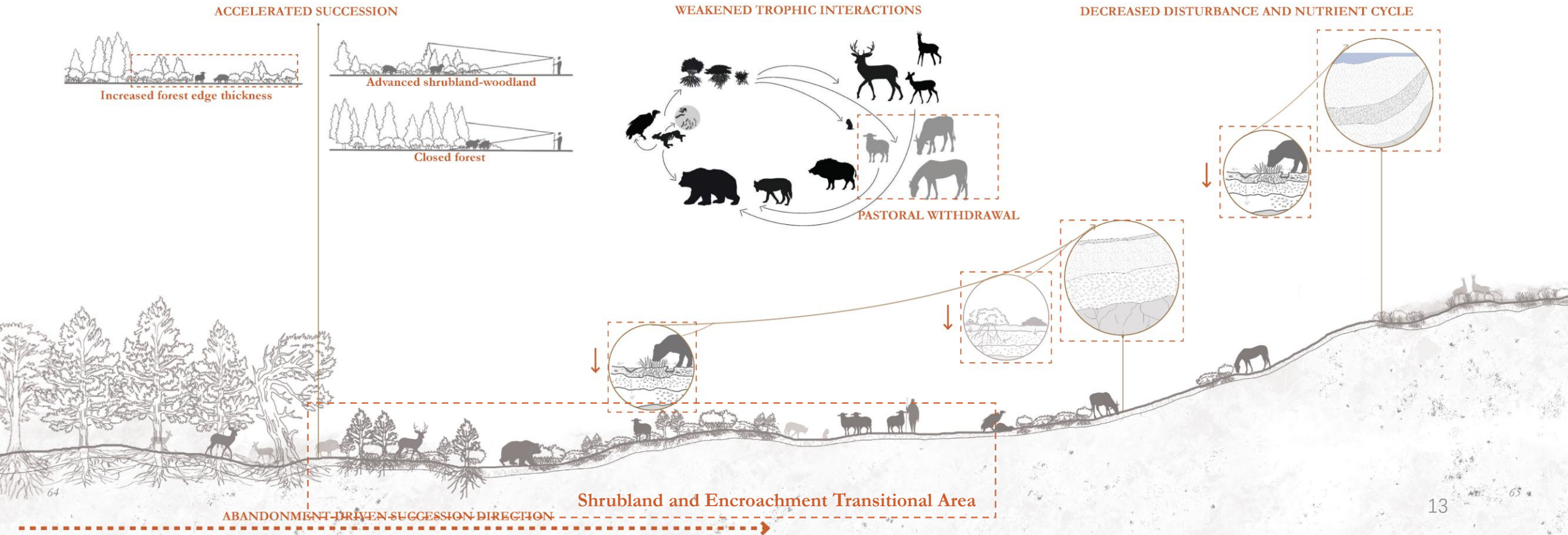
From Middle age to modern era



Actors

II. Diagnosis: What the Mountains Hold

Ecological Process Ruptures Due To Abandonment



III. Restoring the Open Mountain Pasture System

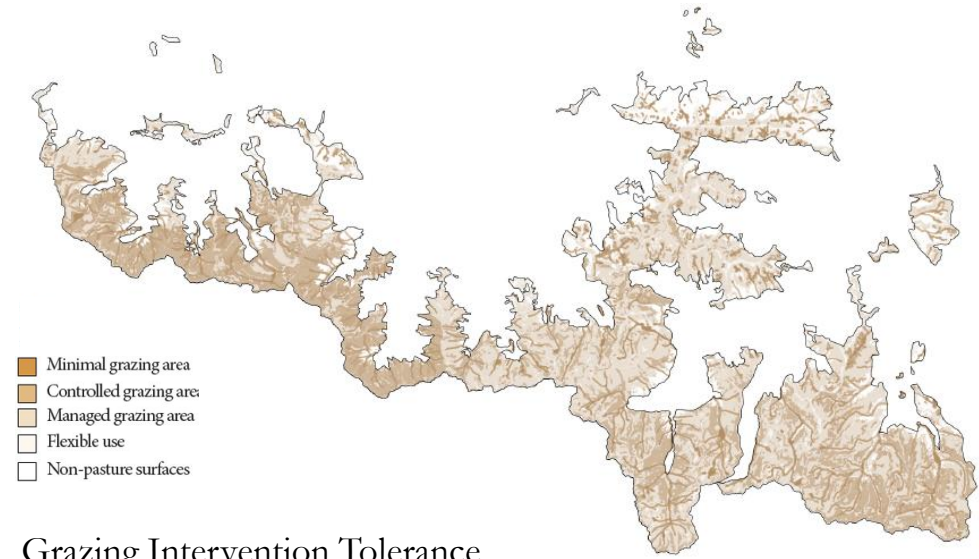
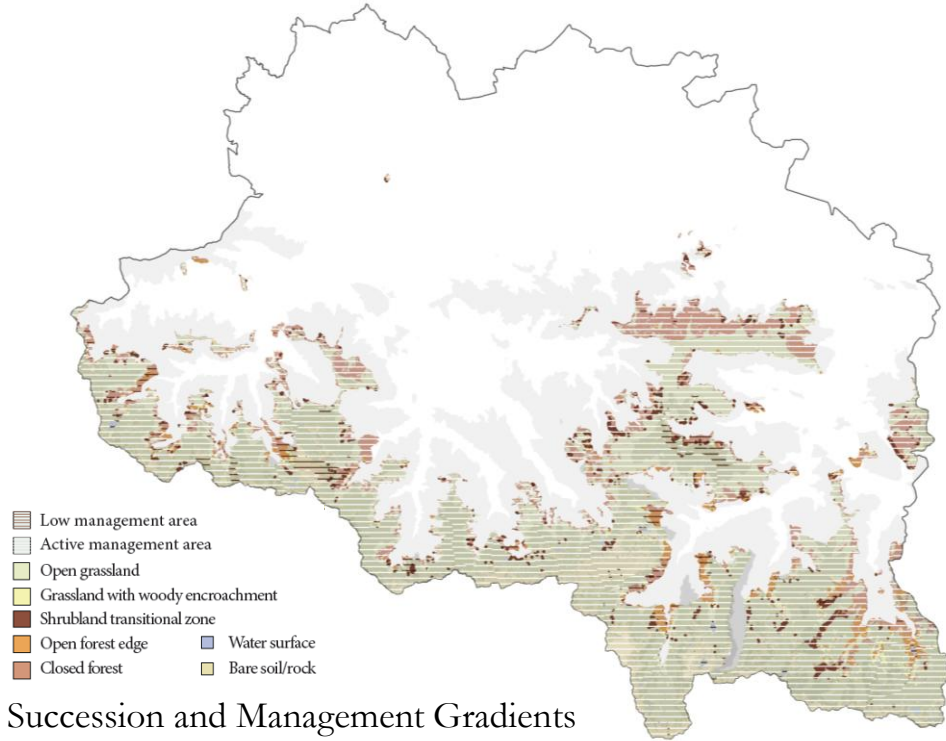


A grazing path,
Ariège department, France.

Adapted from Charles Ripon , via Parc naturel régional des Pyrénées Ariégeoises (n.d.).

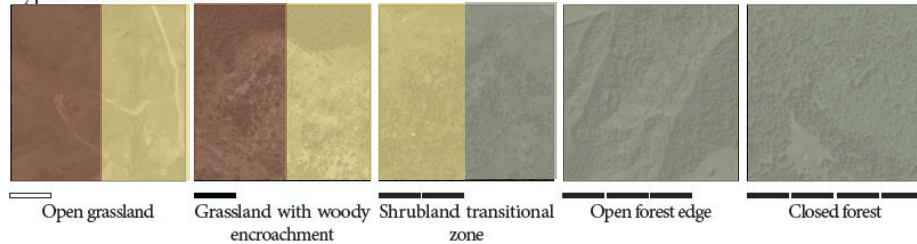
III. Restoring the Open Mountain Pasture System

Mapping the Open Mountain Pasture

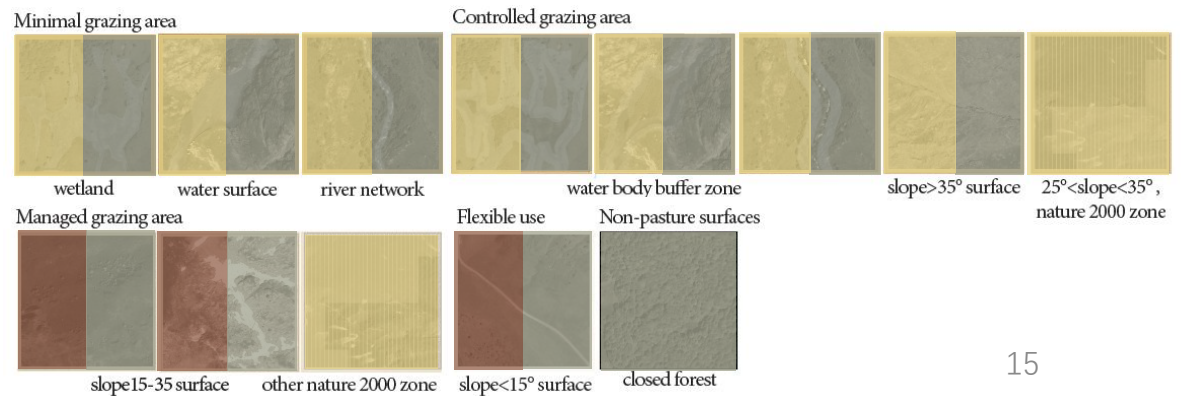


Succession and Management Gradients

Typical succession area

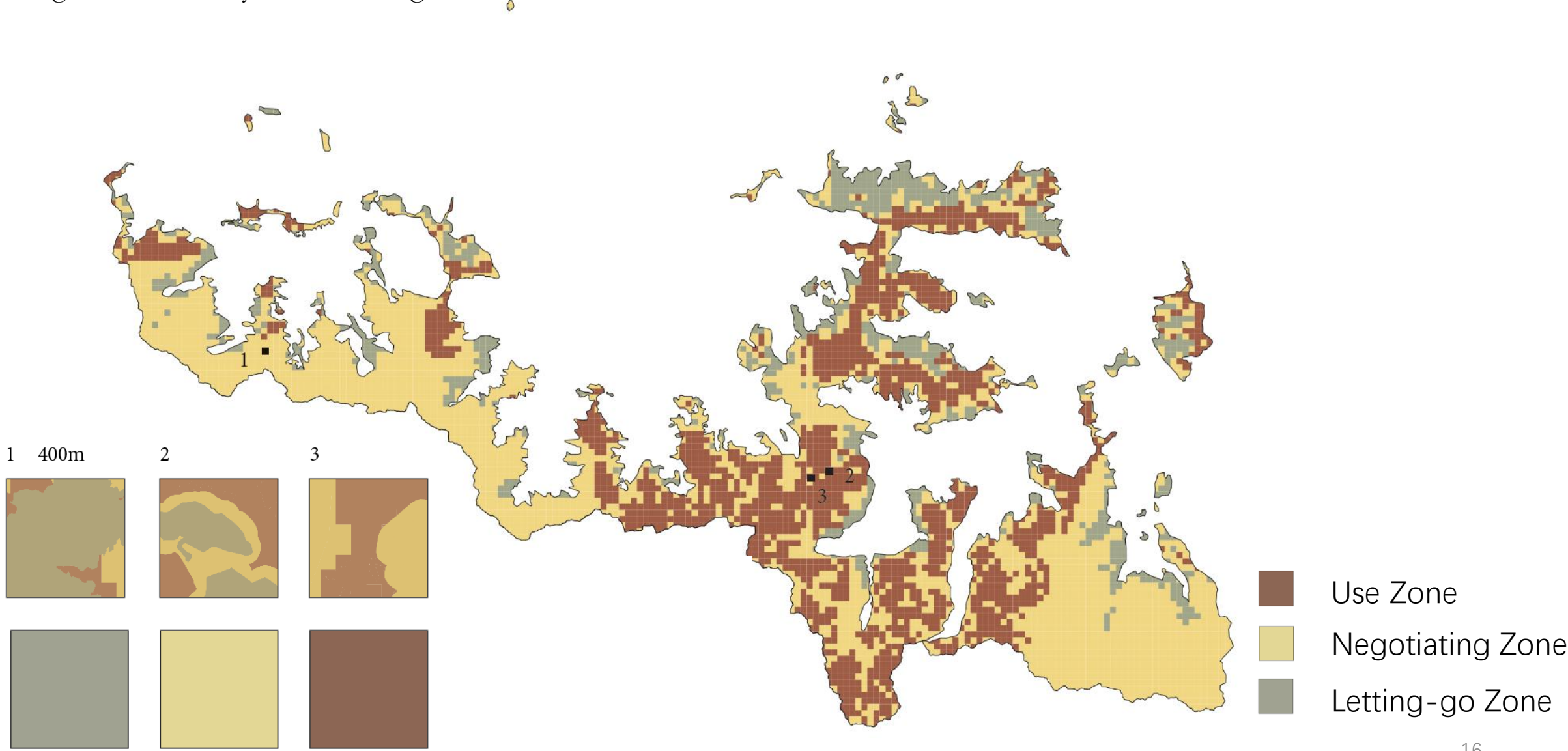


Grazing Intervention Tolerance



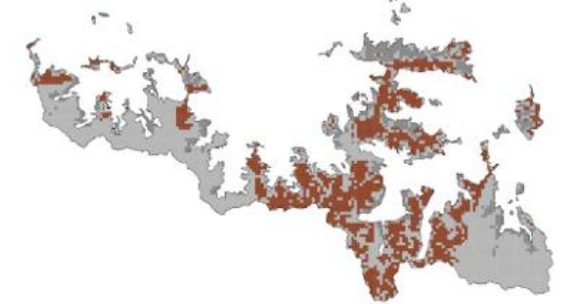
III. Restoring the Open Mountain Pasture System

Management-scale Dynamic Zoning

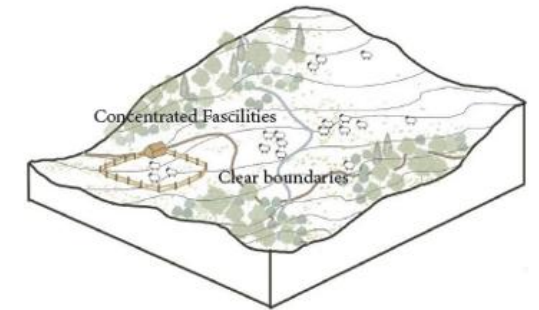




USE ZONE



Pastoralism



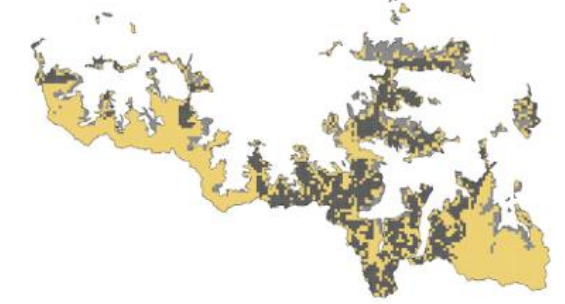
Maintained Pastoral Openness



Disturbance regimes



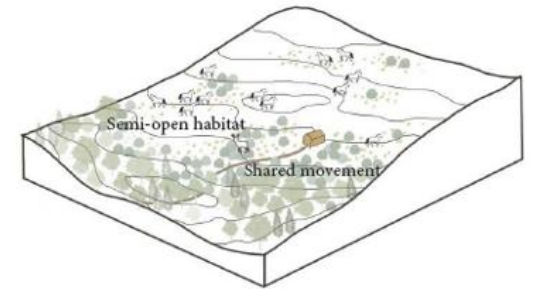
NEGOTIATING ZONE



Local Horses



Wild Grazers



Negotiated Shifting Mosaic



Disturbance regimes Selective succession Multi-species movement connectivity



Inactive Human Facilities

Natural Regrowth in Forest Edge

Roe Deer

Red Deer

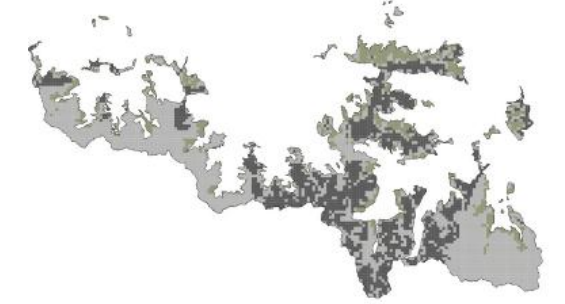
Wild Boar

Brown Bear

Black Grouse

Fig4-11 | Imaged by author.

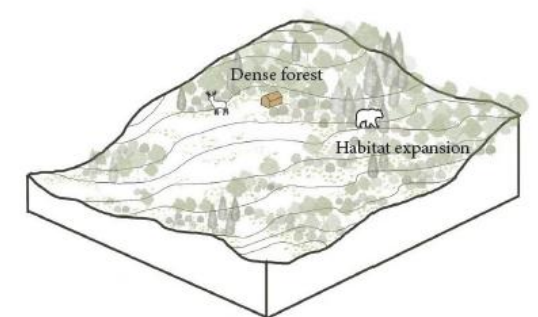
LETTING-GO ZONE



Wild Grazers



Brown Bears



Habitat Expansion through Succession



Selective succession



Multi-species movement connectivity

IV. Coexistence with Bears

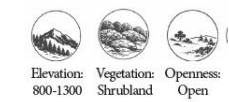
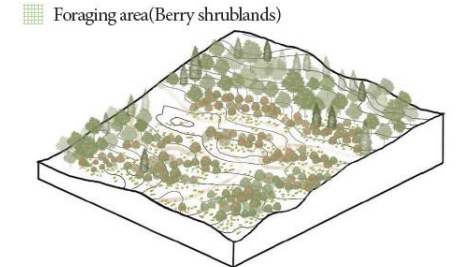
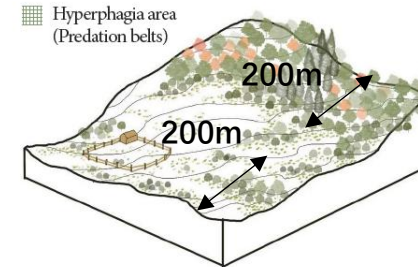
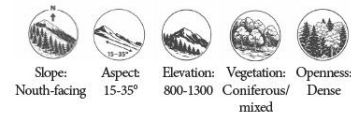
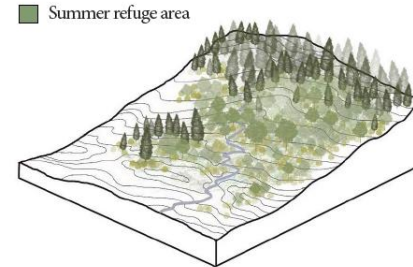
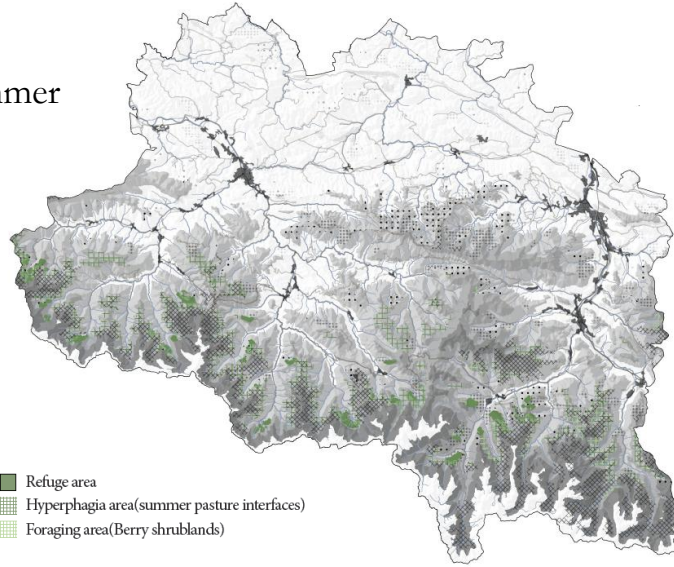


Problem bear M129 that got too close to human areas.
Auzat, Ariège department, France .
Adapted from Association Pays de l'ours (2023).

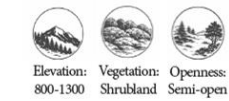
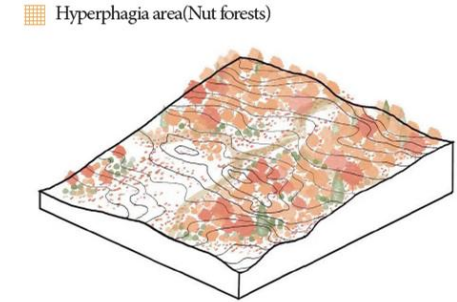
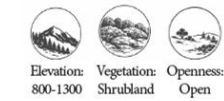
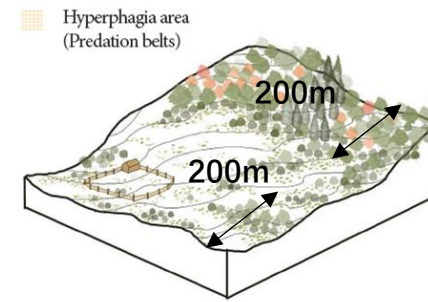
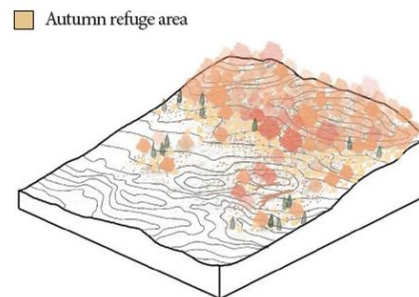
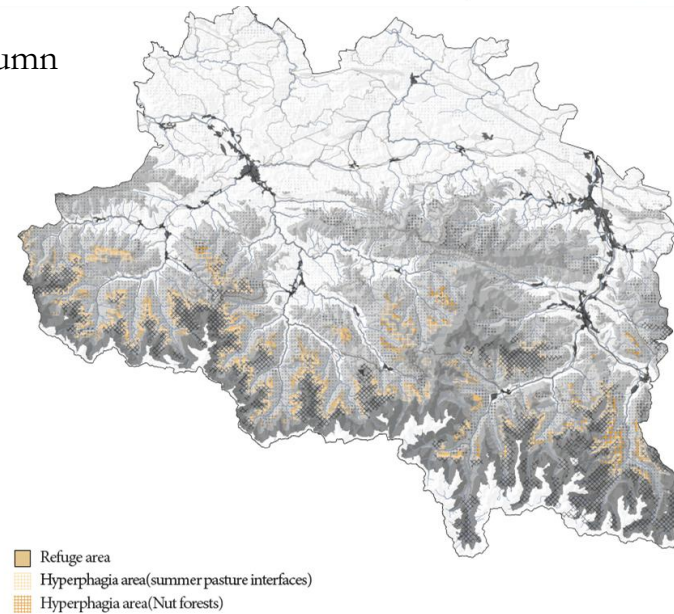
IV. Coexistence with Bears

Mapping the Bear Territory

Summer

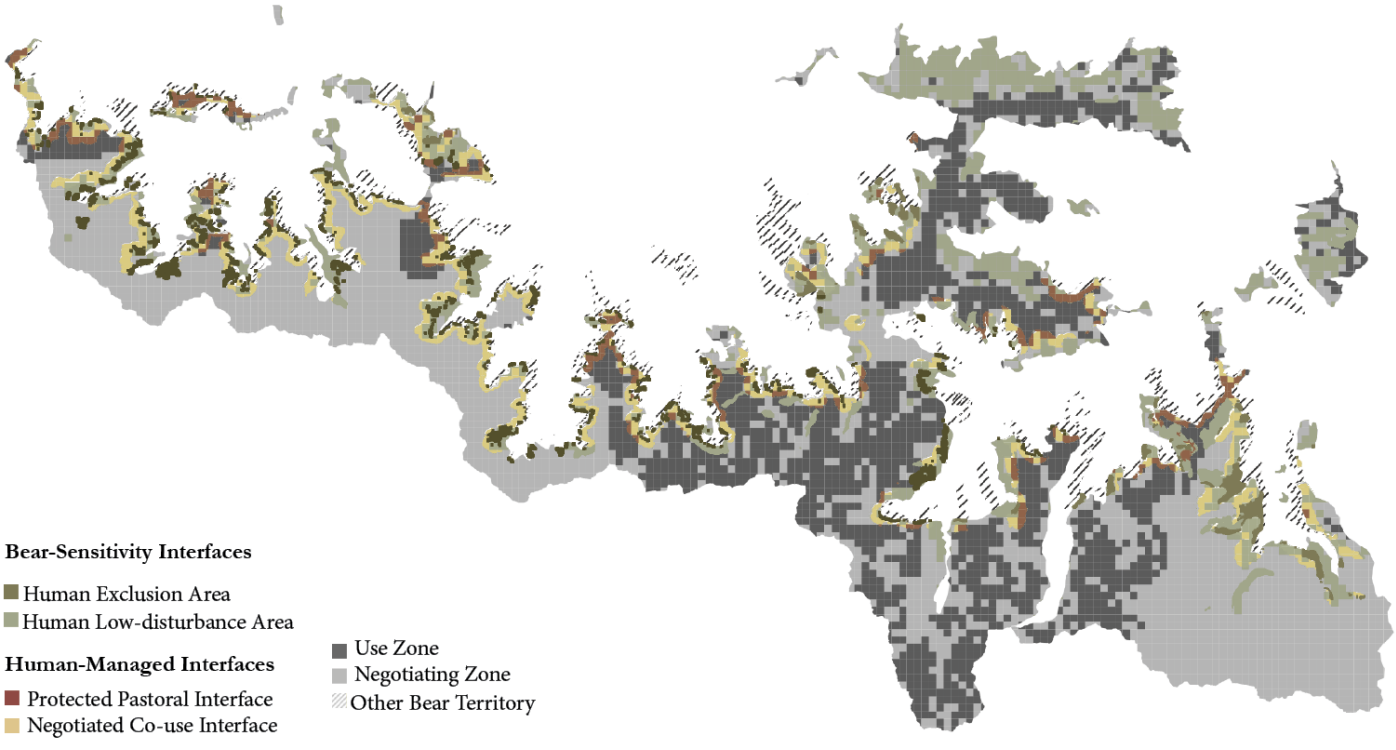
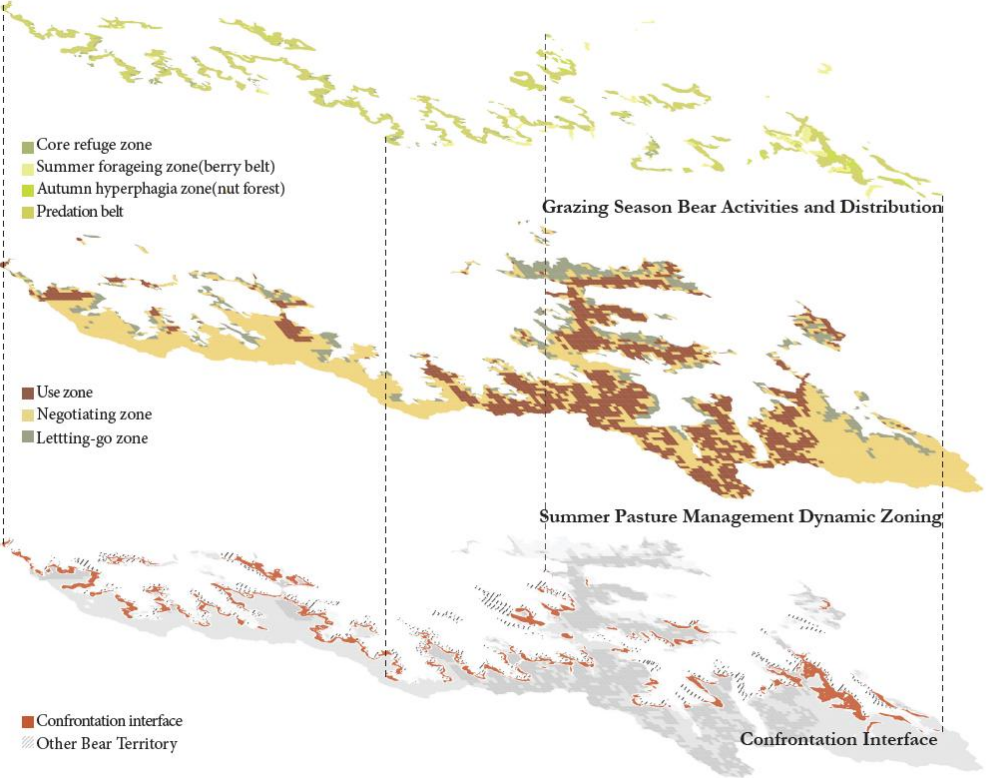


Autumn



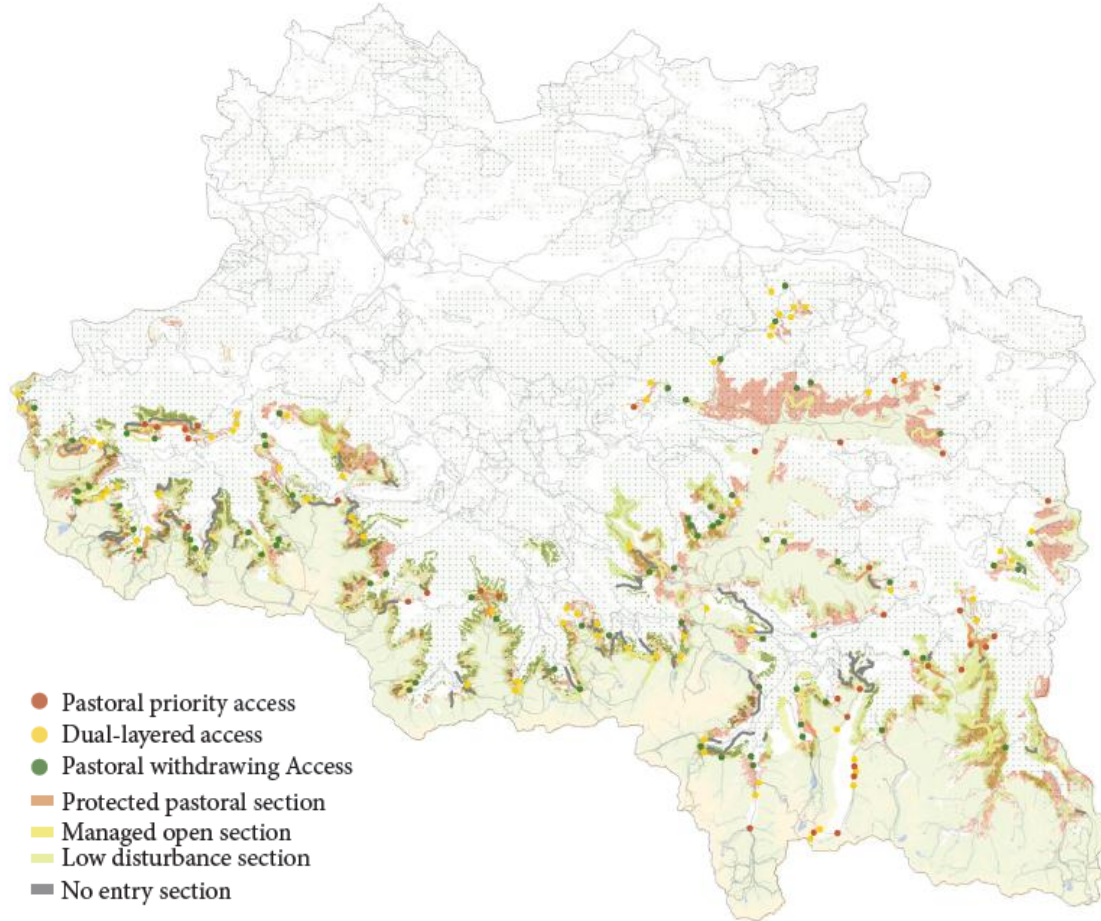
IV. Coexistence with Bears

Confrontation Interface and Spatial Typologies

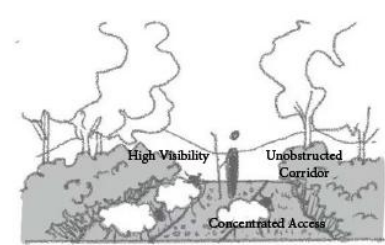


IV. Coexistence with Bears

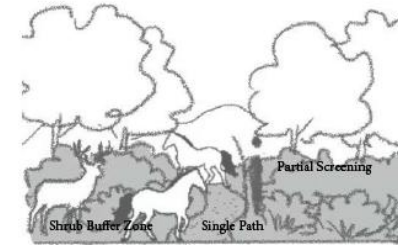
Reconfigured Grazing Season Movement



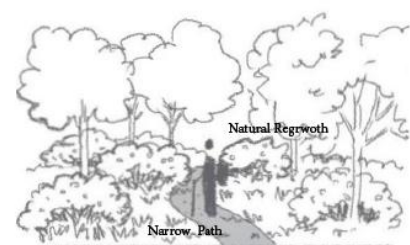
- Pastoral priority access
- Dual-layered access
- Pastoral withdrawing Access
- Protected pastoral section
- Managed open section
- Low disturbance section
- No entry section
- River network
- Core refuge zone
- Bare soil/rock
- Predation belt
- Nature grassland
- Autumn hyperphagia area(nut forest)
- Water surface
- Summer foraging area(berry belt)
- Forest
- Forest in summer pasture management zone



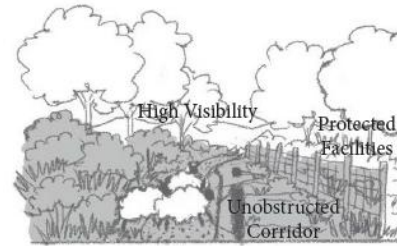
Pastoral priority access



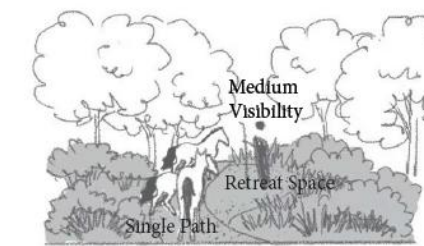
Dual-layered access



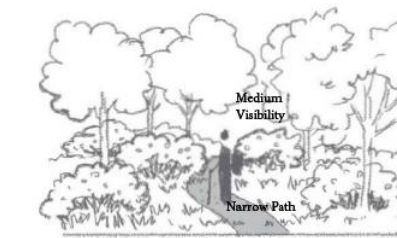
Pastoral withdrawing access



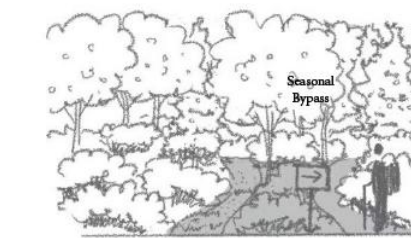
Protected pasporal section



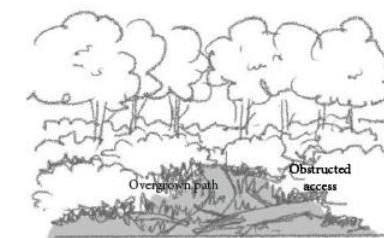
Managed open section



Low disturbance section



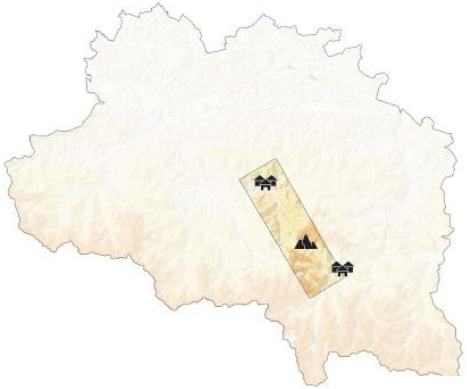
No entry section



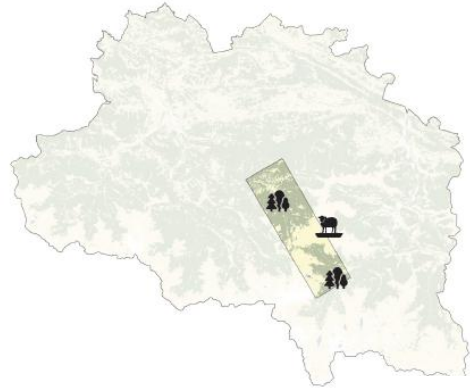
V.Huamn as Cohabitants



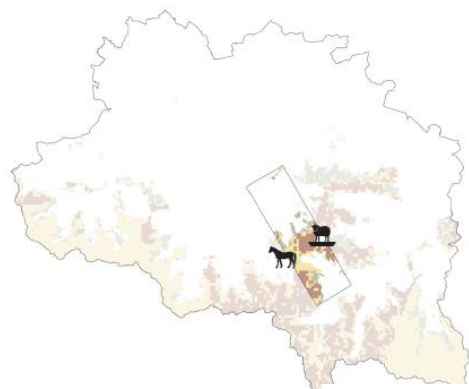
The Pastoral Mosaic of Pic des Trois Seigneurs



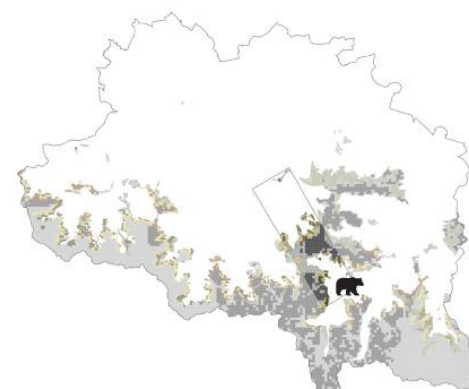
From valley to mountain



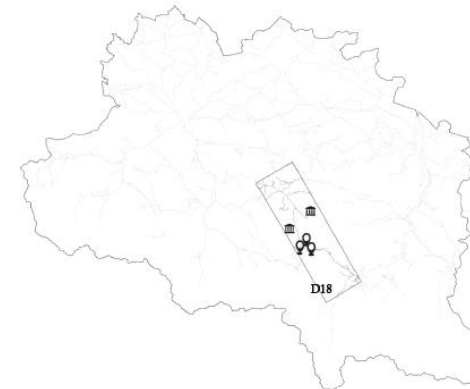
From forest to pasture



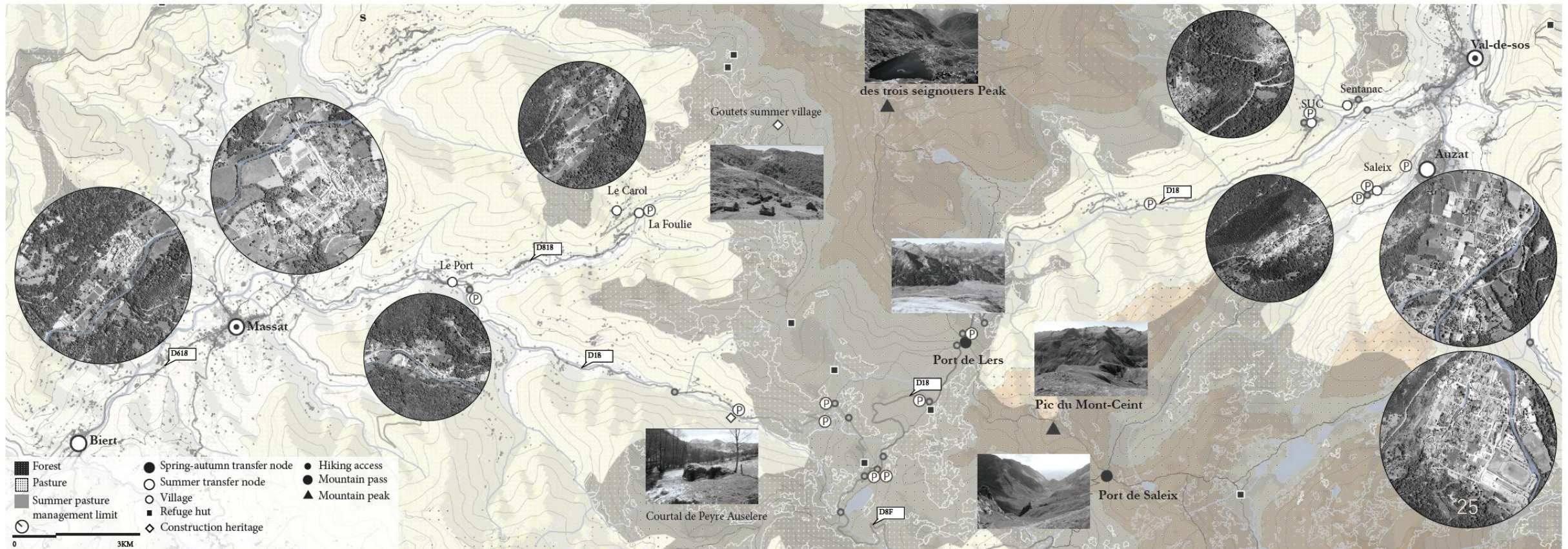
New dynamic zoning



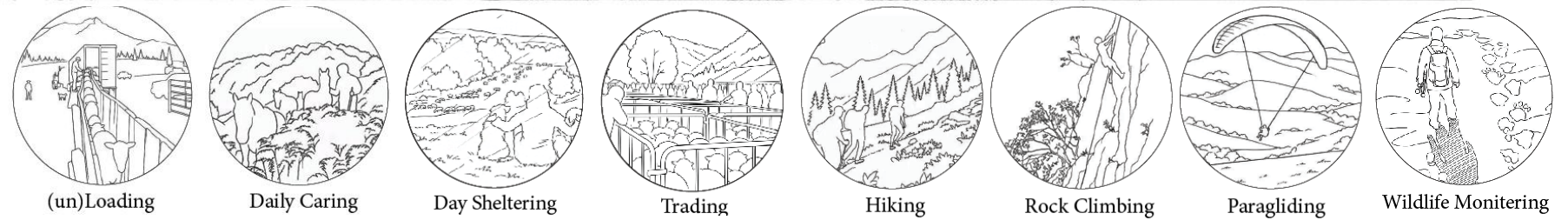
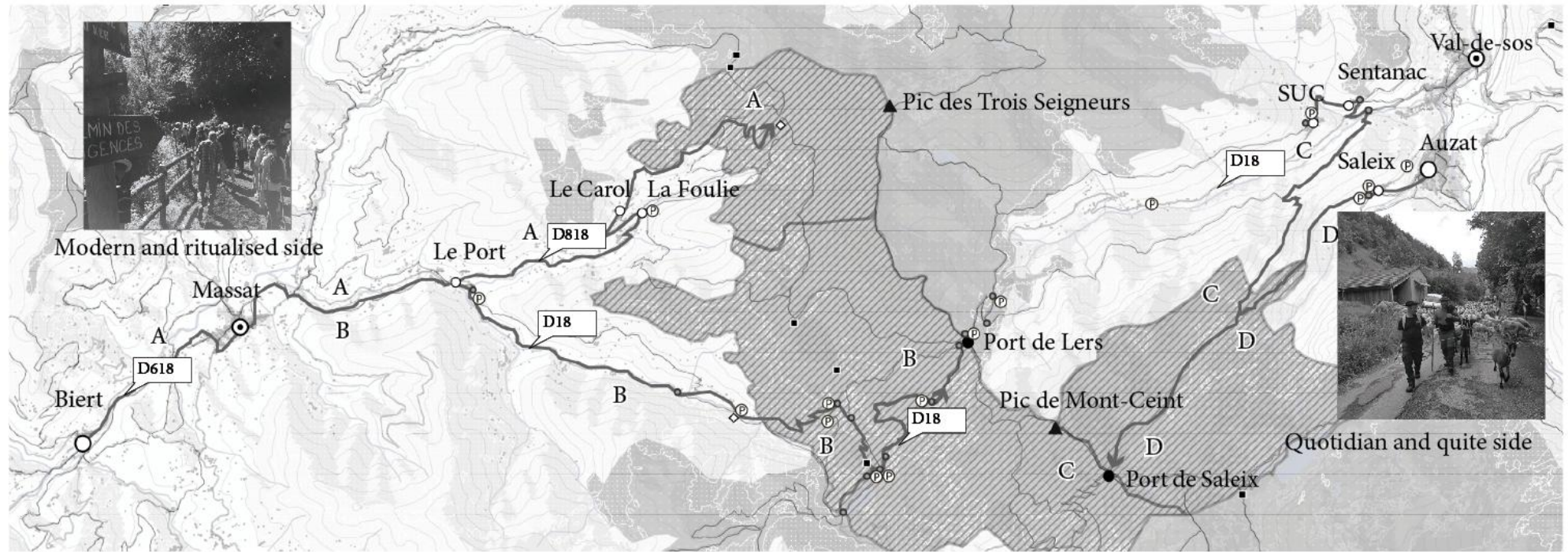
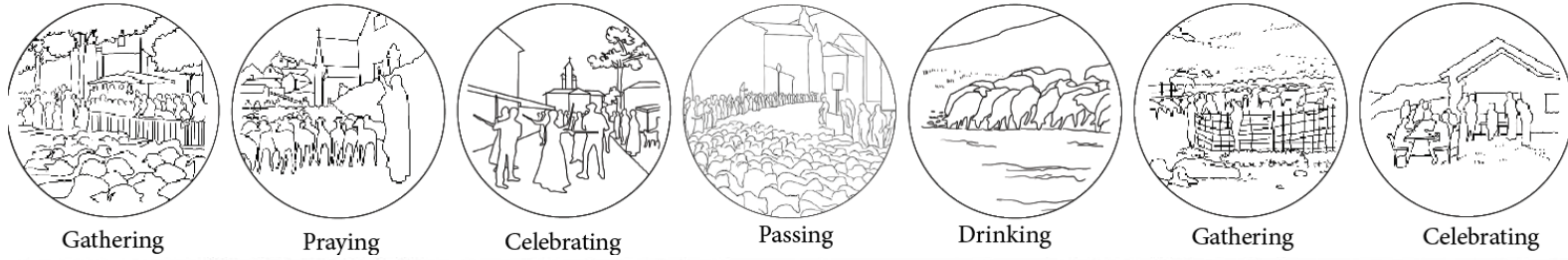
Bear activities



Construction legacies and tourism

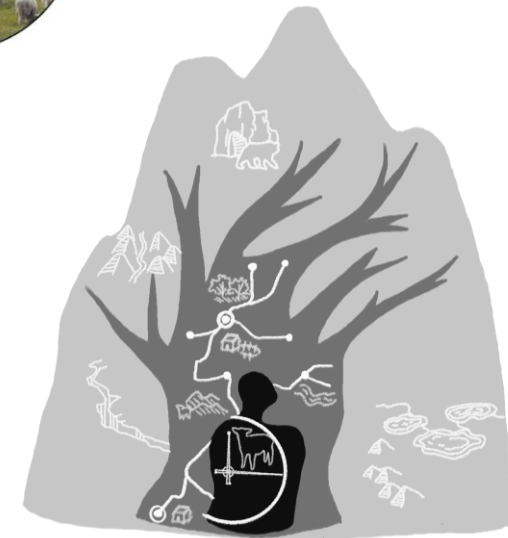
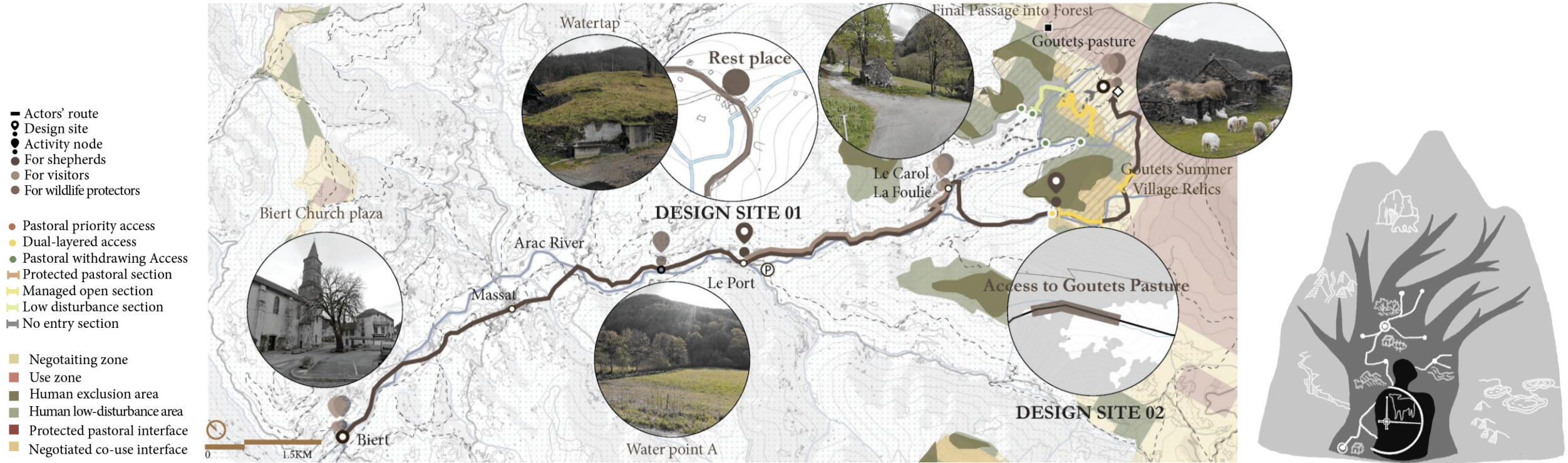


The Current Routes, Pasture Units and Activities



For Shepherds

From River to Ridge :A Procession of the Rite



Departure



Caring Herds



Half-way Rest



Counting Herds before entering forest

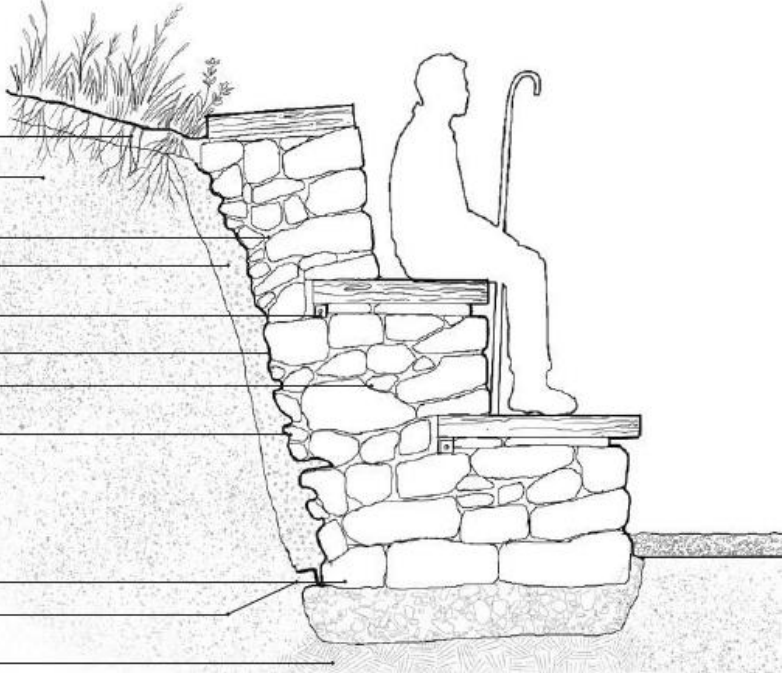


Arriving

Design Site 01
Rest Place



- 100–150 mm Topsoil
- Existing Slope
- Through stone
- 200–300 mm Backfill
- Timber Seat Plank
- Geotextile filter fabric
- 30–100 mm Hearting stones
- Pinning stones
- 50–75 mm weep gap at base
- Large Foundation Stones
- Stable Bearing Ground

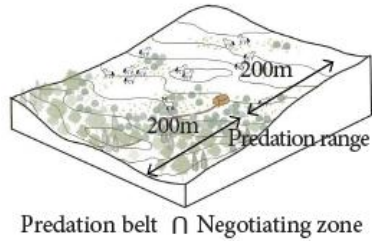


Design Site 02

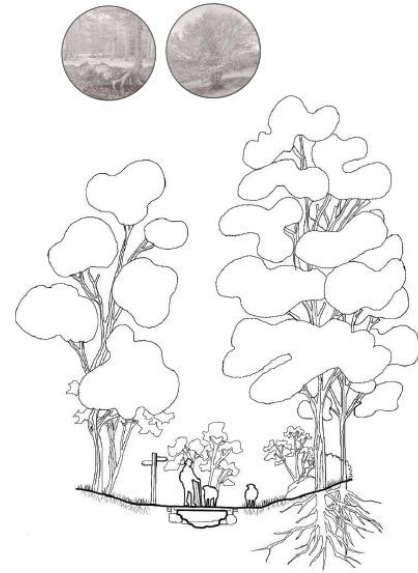
Access to Goutets Pasture



Confrontation Interface



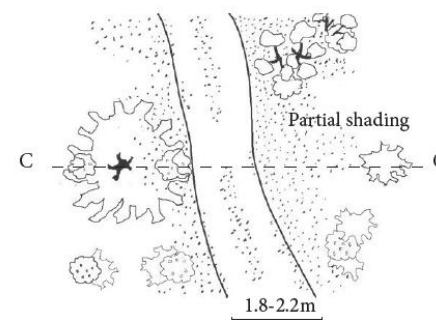
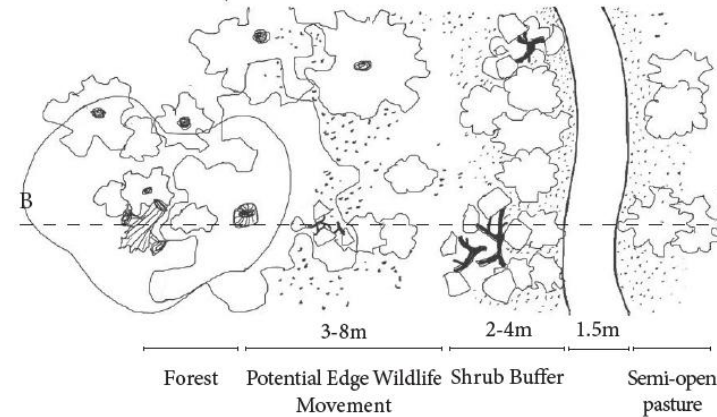
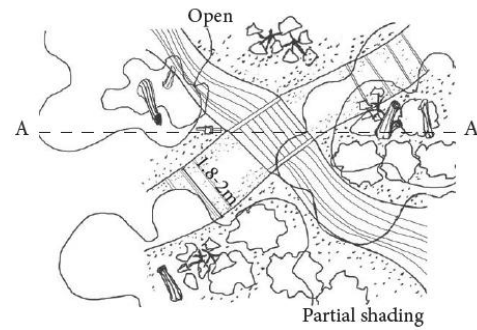
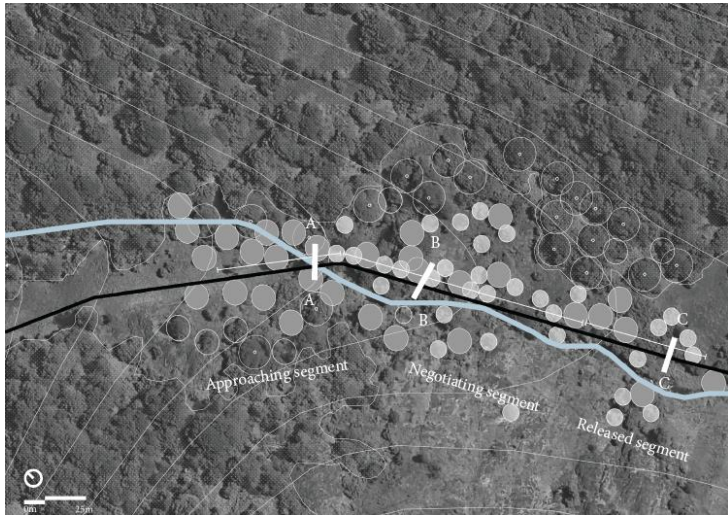
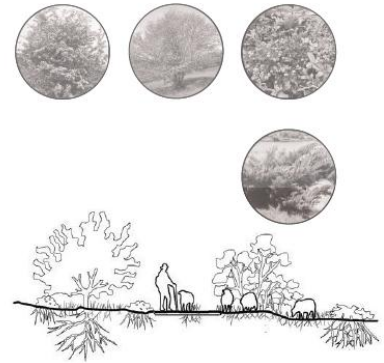
Approaching Segment



Negotiating Segment



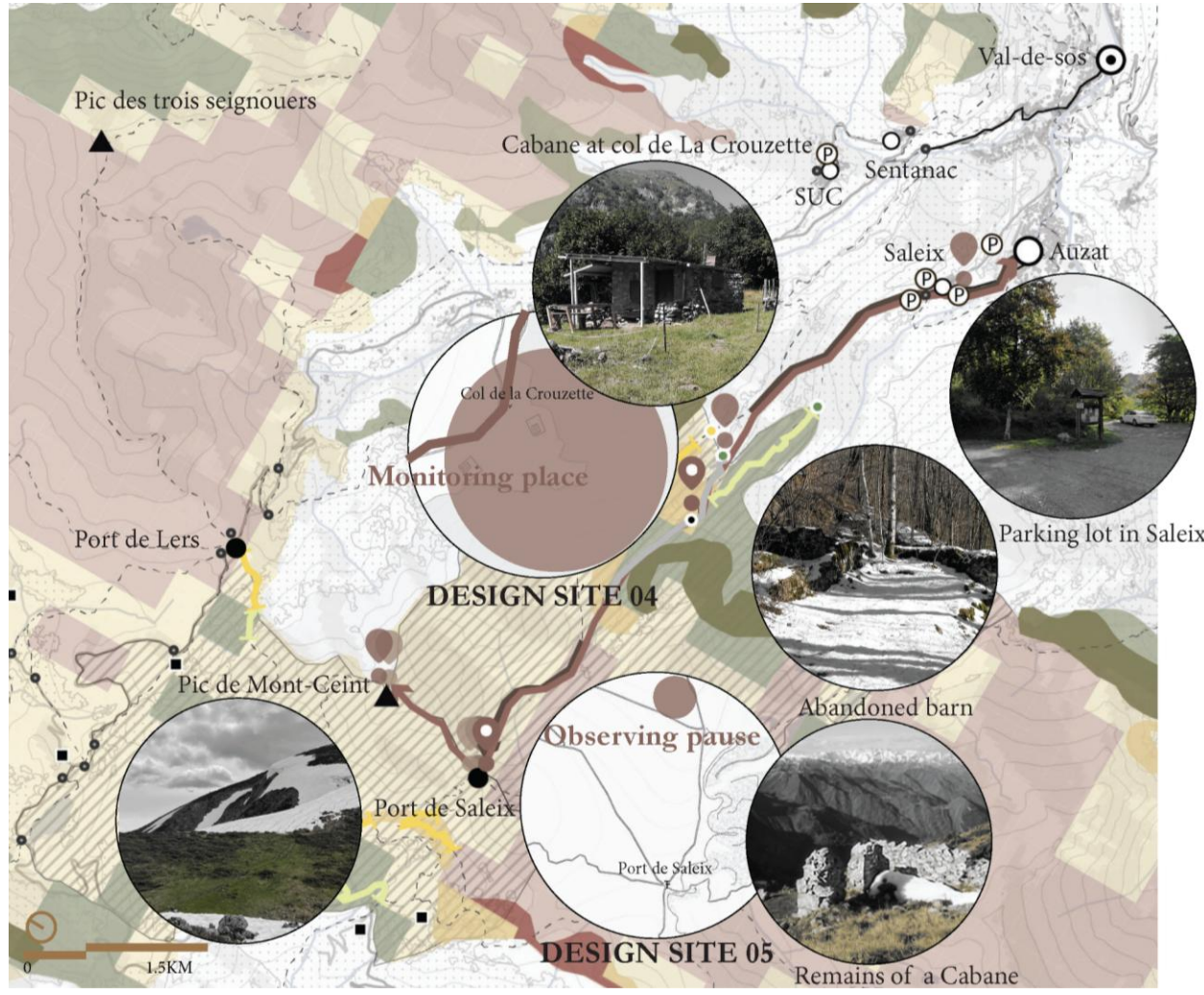
Released Segment





For Wildlife Protectors

From Threshold to Pass: A Path of Watch



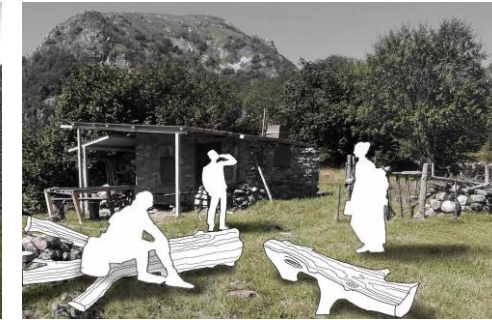
Arriving



Rest at Seasonal Restricted Access



Working in the Forest



Rest and Talking



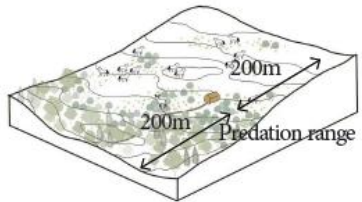
Observing at the Mountain Pass



Scanning at the Highest Point

Design Site 04

Monitoring place



Predation belt □ Negotiating zone

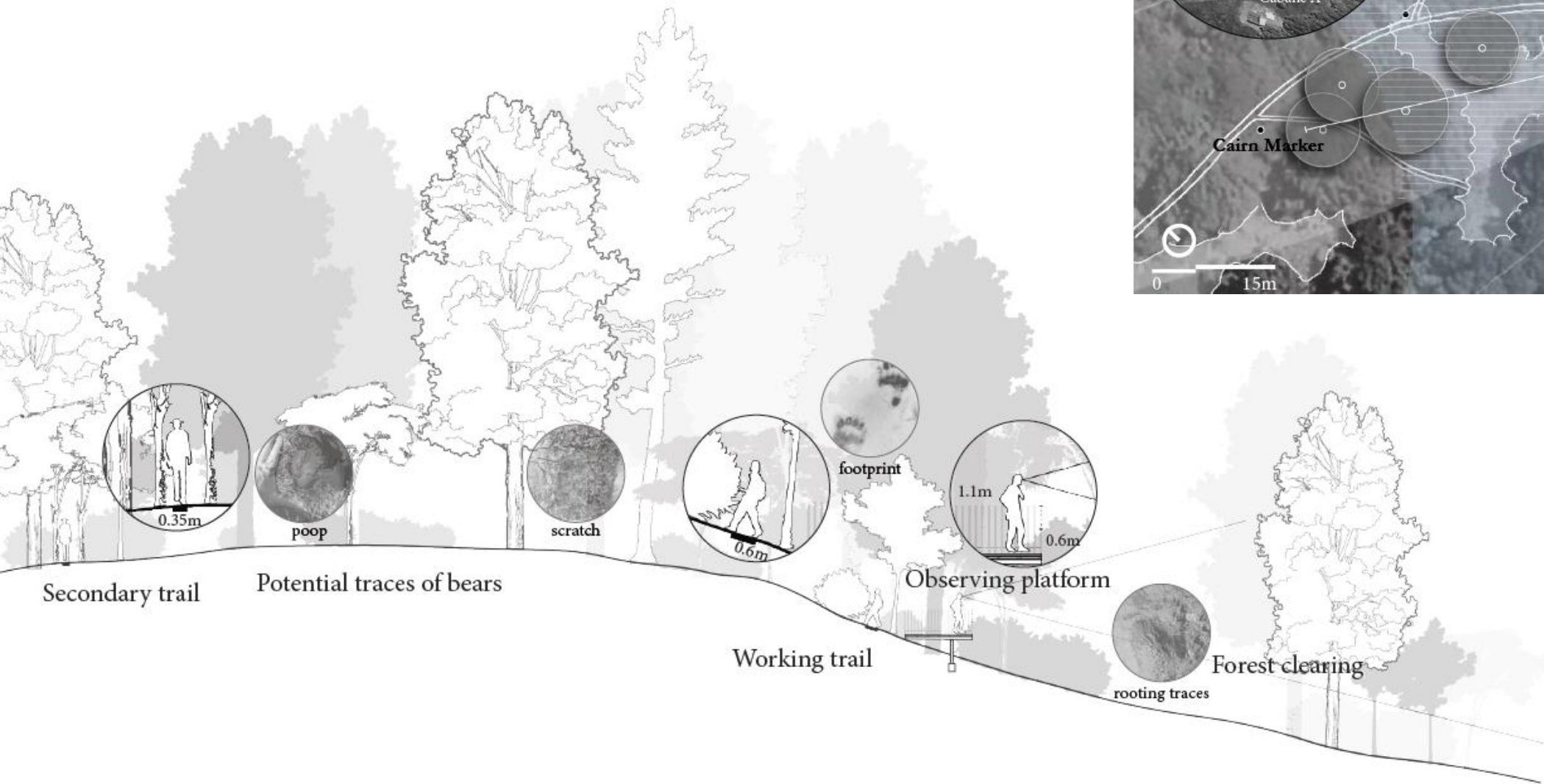


Letting-go zone

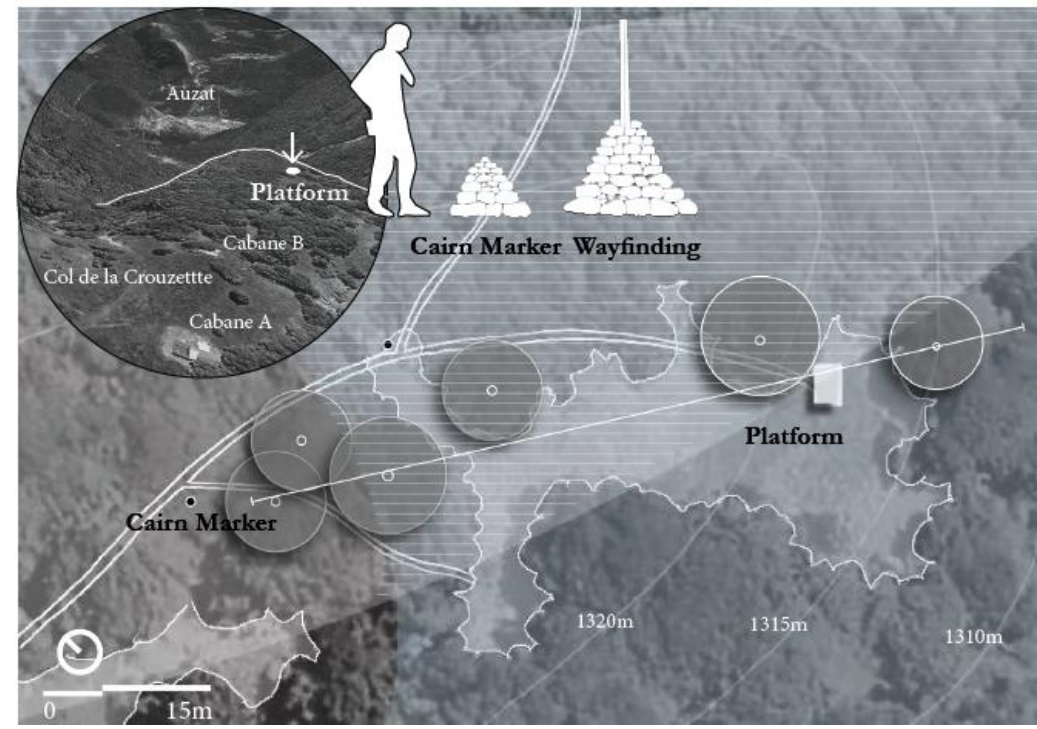
Cabane houses are privately owned by shepherds and are not open to the public. They no longer serve the pastorism due to path restrictions during the grazing season, but wildlife protectors can still use them as shelters, utilizing the enclosed water facilities and outdoor space.



In grazing season, the existing trails that near bear refuge areas are only for wildlife protectors and rangers.



Monitoring Hotspot Area



Design Site 05

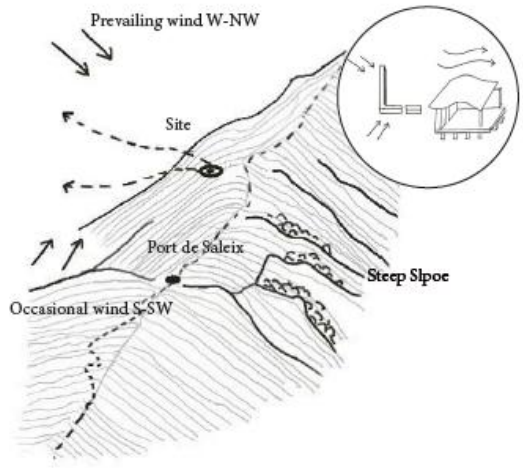
Observing pause



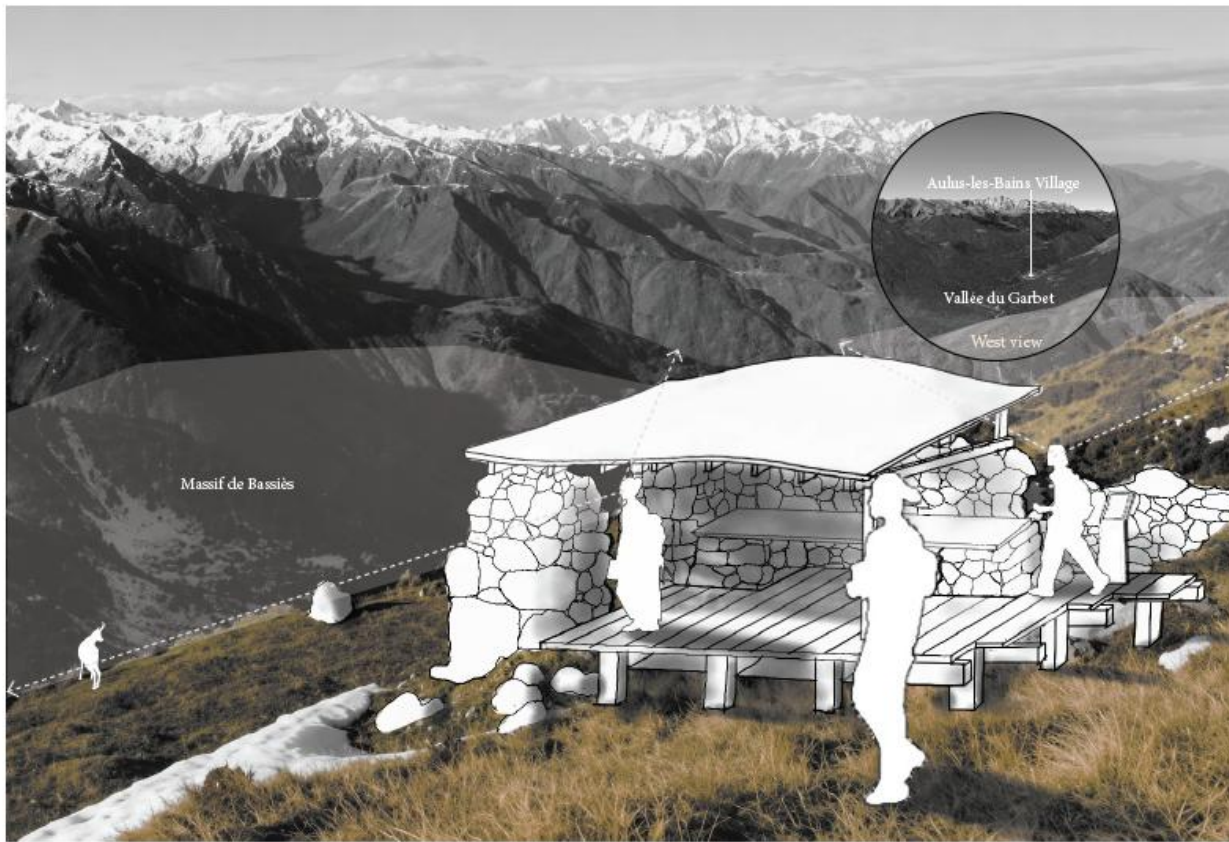
Site Location



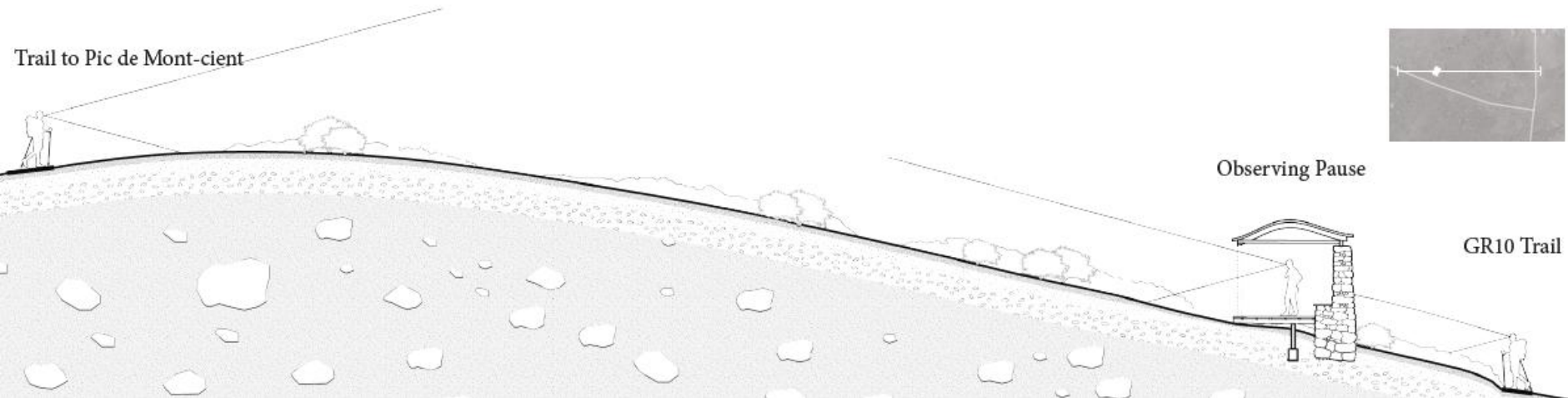
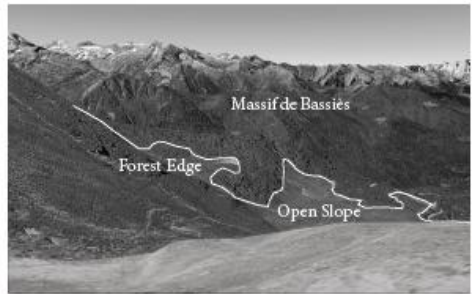
Site wind and exposure condition



South Primary scanning view toward the Bassiès slopes

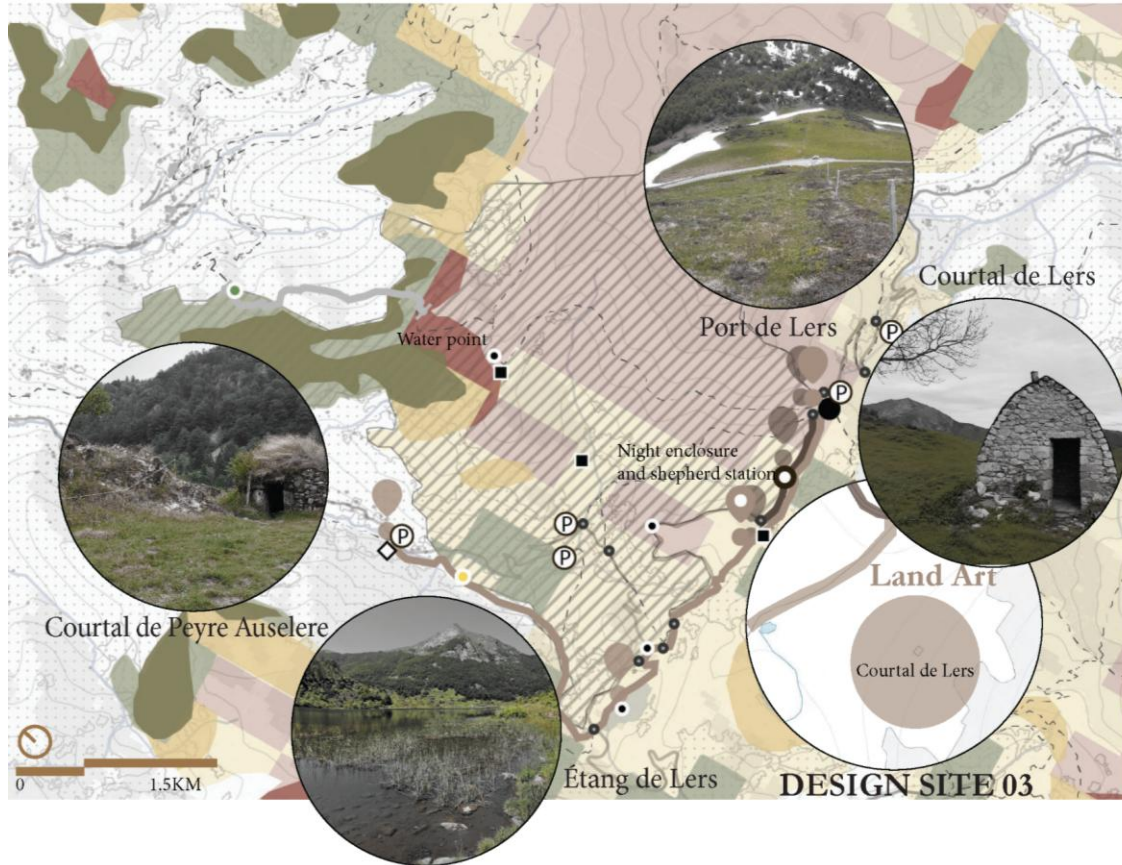


South view towards Massif de Bassiès



For Visitors

Reading the Rewilding: A Path of Awe



- Actors' route
- Design site
- Activity node
- For shepherds
- For visitors
- For wildlife protectors
- Pastoral priority access
- Dual-layered access
- Pastoral withdrawing Access
- Protected pastoral section
- Managed open section
- Low disturbance section
- No entry section
- Negotaiting zone
- Use zone
- Human exclusion area
- Human low-disturbance area
- Protected pastoral interface
- Negotiated co-use interface



Arriving and Knowing History at Relics



Slowing down



Reading the Rewilding



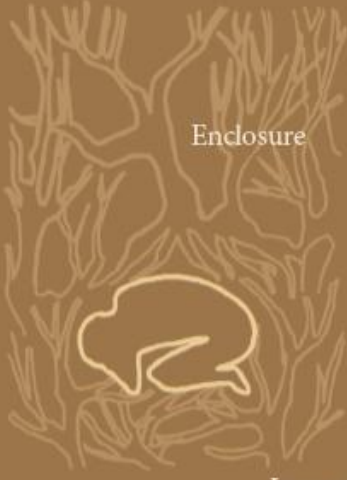
Overlooking the Mountain Pass

Psychological and Spatial Need

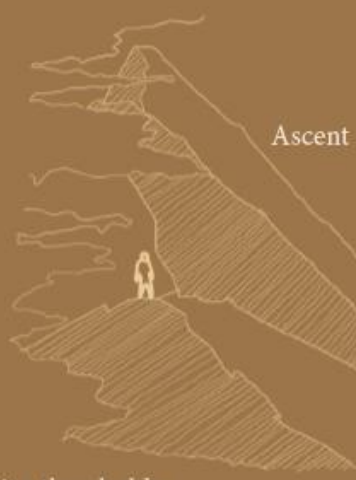
Spatial conditions that host escapist desire



Middle landscape as buffers



Enclosure

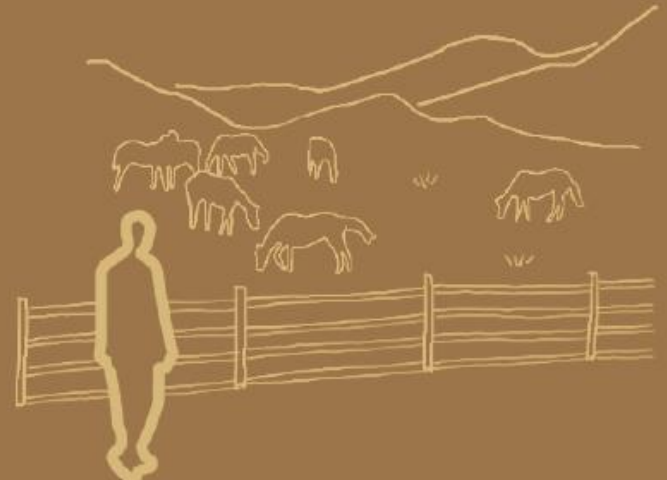


Ascent



Sublime

Re-enchantment forks: consumption or care



Spatial Strategies



Reality and gravity



Immersion and sublime



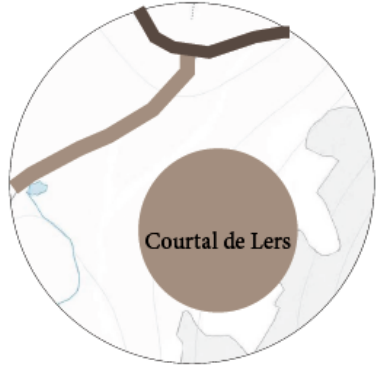
Body intervention



Restriction and respect

Design Site 03

Land Art



Spring bear foraging behavior



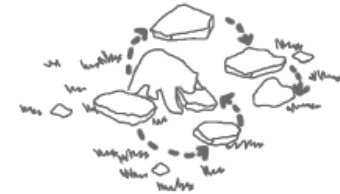
Flipping stones for food



Forest-pasture transitional area

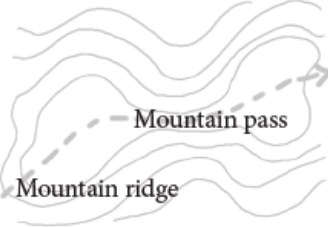


Large but energy-efficient stones



Sequential and clustered search

Spring bear dispersal behavior



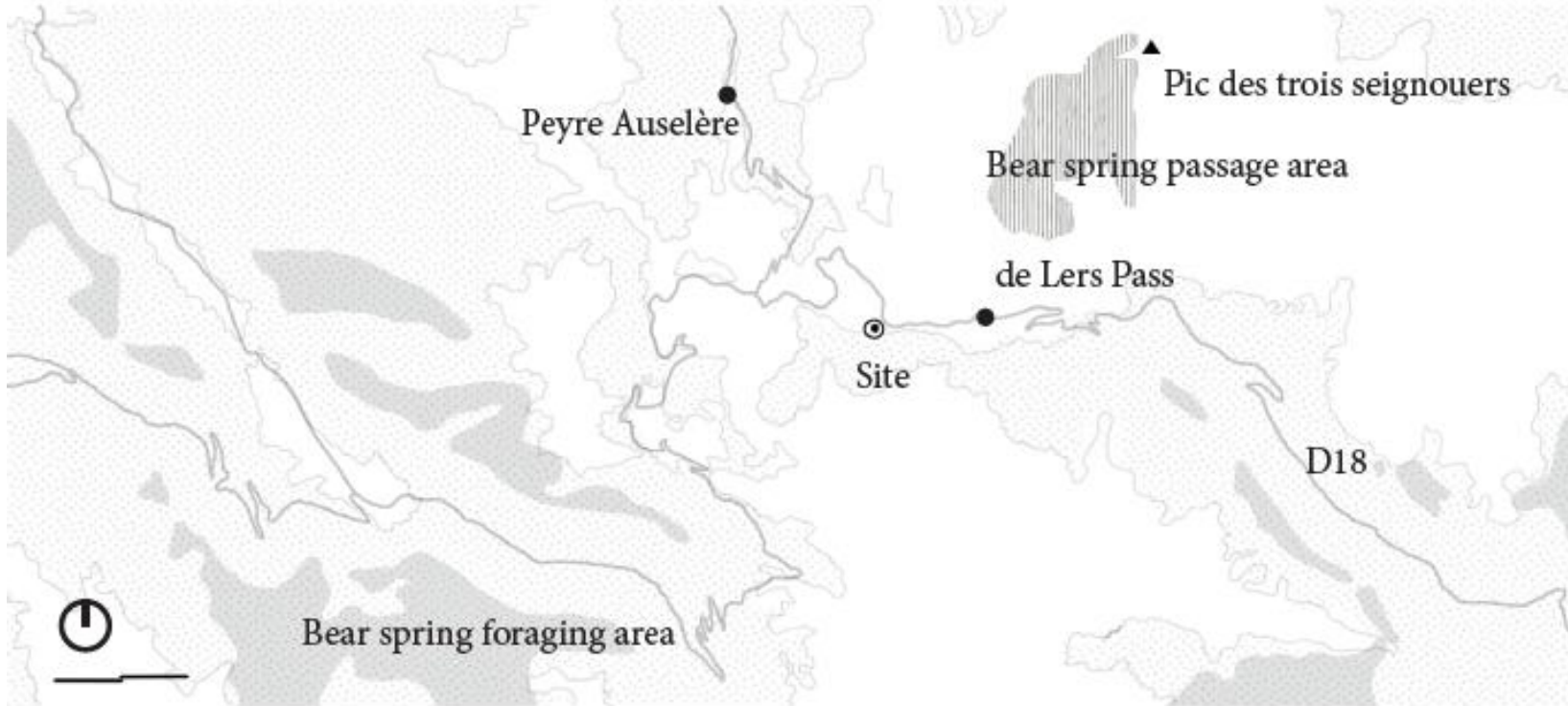
Mating movement



Natal dispersal



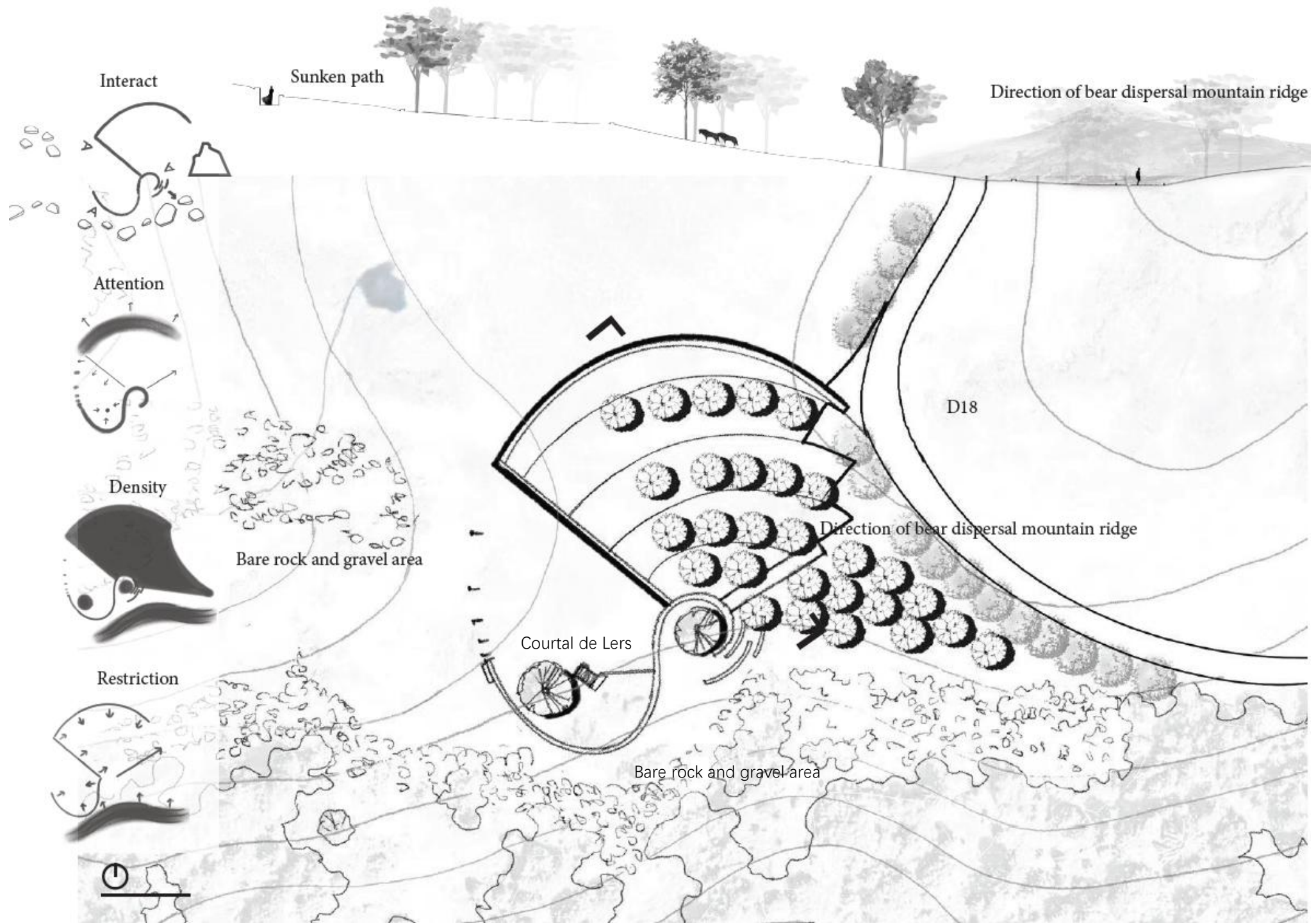
Bear across mountain pass







Turning Inward

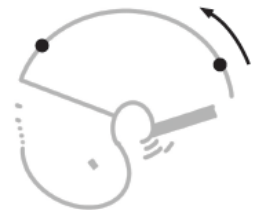
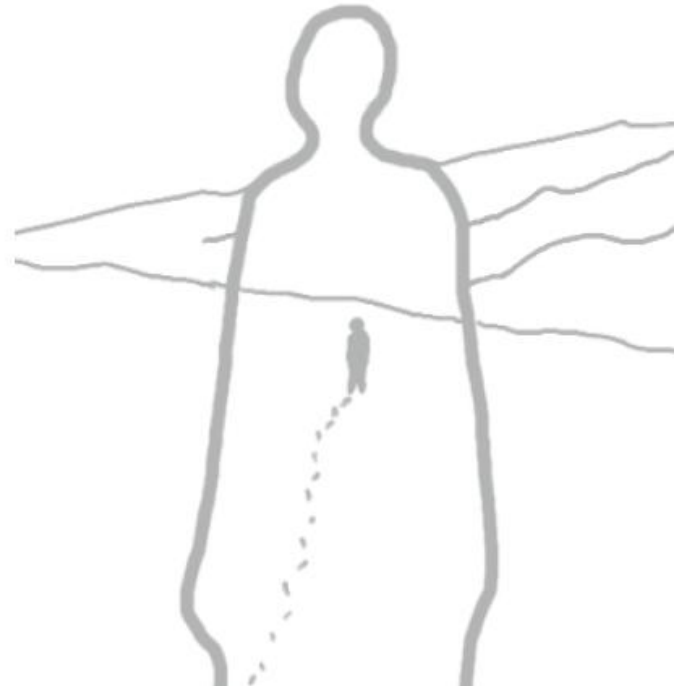


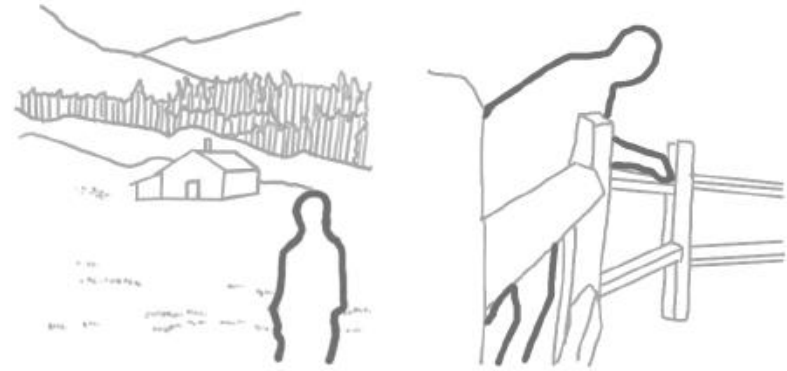


Walking from the Entrance



Physically Guided Turning Inward





Walking down towards the Mountain

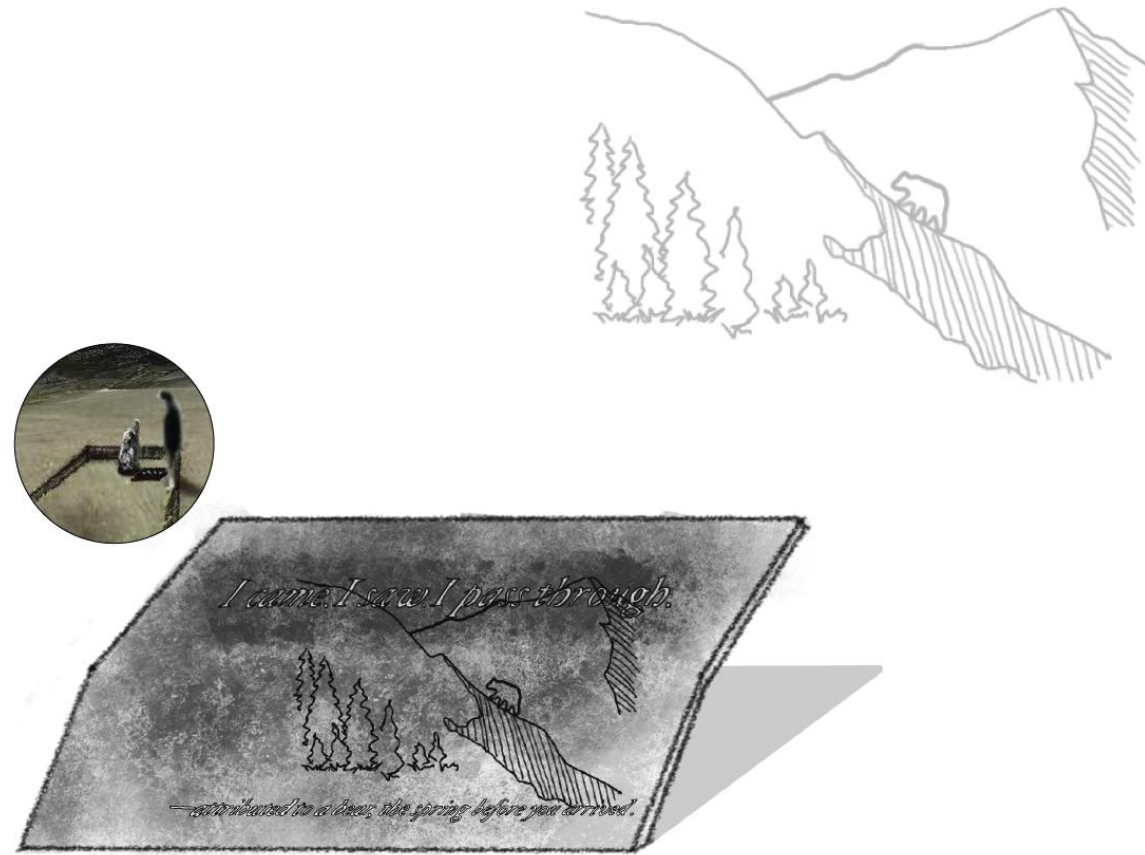


Facing the Courtal de Lers





Facing the Pic des trois seigneurs





*Something came before you,
and turned stones*

Conclusion: Rewilding Principles

Designed disturbance over withdrawal



Graded interfaces over fixed separation



Conclusion: Rewilding Principles

Time as a coexistence tool



Perceptibility as acceptance



A sepia-toned illustration of a winter landscape. In the foreground, a bear is walking on a path. To the left, there are several small, square-shaped objects, possibly traps or food caches. In the middle ground, a small cabin with a chimney is situated near a river. The background features rolling hills and mountains under a cloudy sky. The overall style is that of a vintage woodcut or engraving.

Thank you for your listening!