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The “ Groupement Forestier des montagnes particulières de Hèches ”: a case from the mountains of southwestern France

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► **To cite this version:**

Laurent Larrieu. The “ Groupement Forestier des montagnes particulières de Hèches ”: a case from the mountains of southwestern France. How to balance forestry and biodiversity conservation? A view across Europe, Nov 2020, virtual event, France. 13p. hal-03016638

HAL Id: hal-03016638

<https://hal.inrae.fr/hal-03016638>

Submitted on 20 Nov 2020

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The « Groupement Forestier des montagnes particulières de Hèches »: a case from the mountains of southwestern France

Laurent Larrieu

INRAE Dynafor

CNPF-CRPF Occitanie

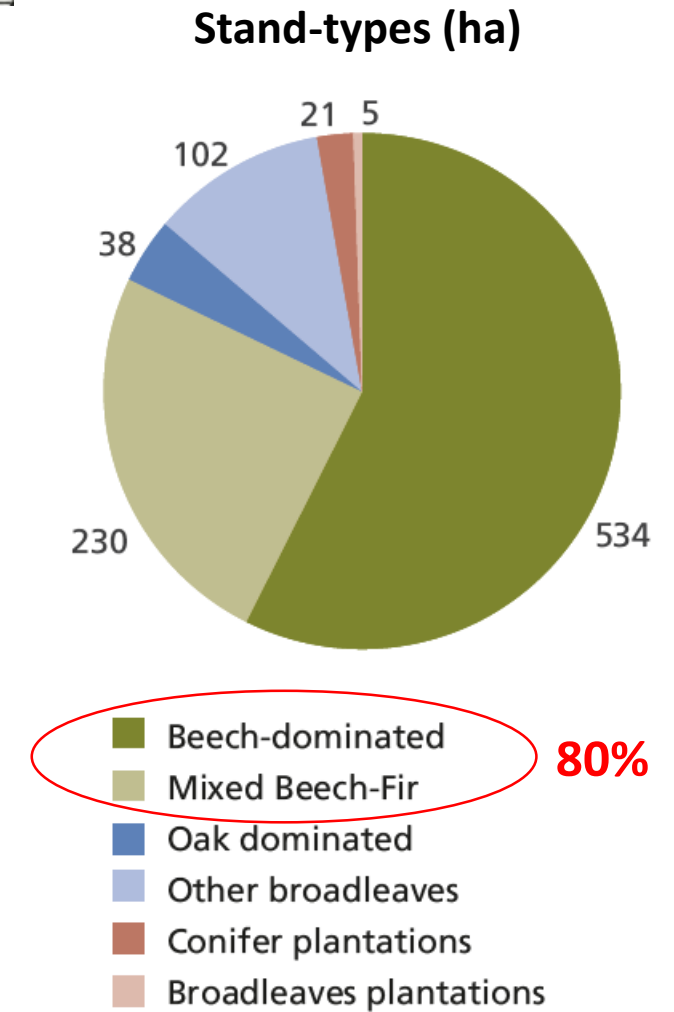
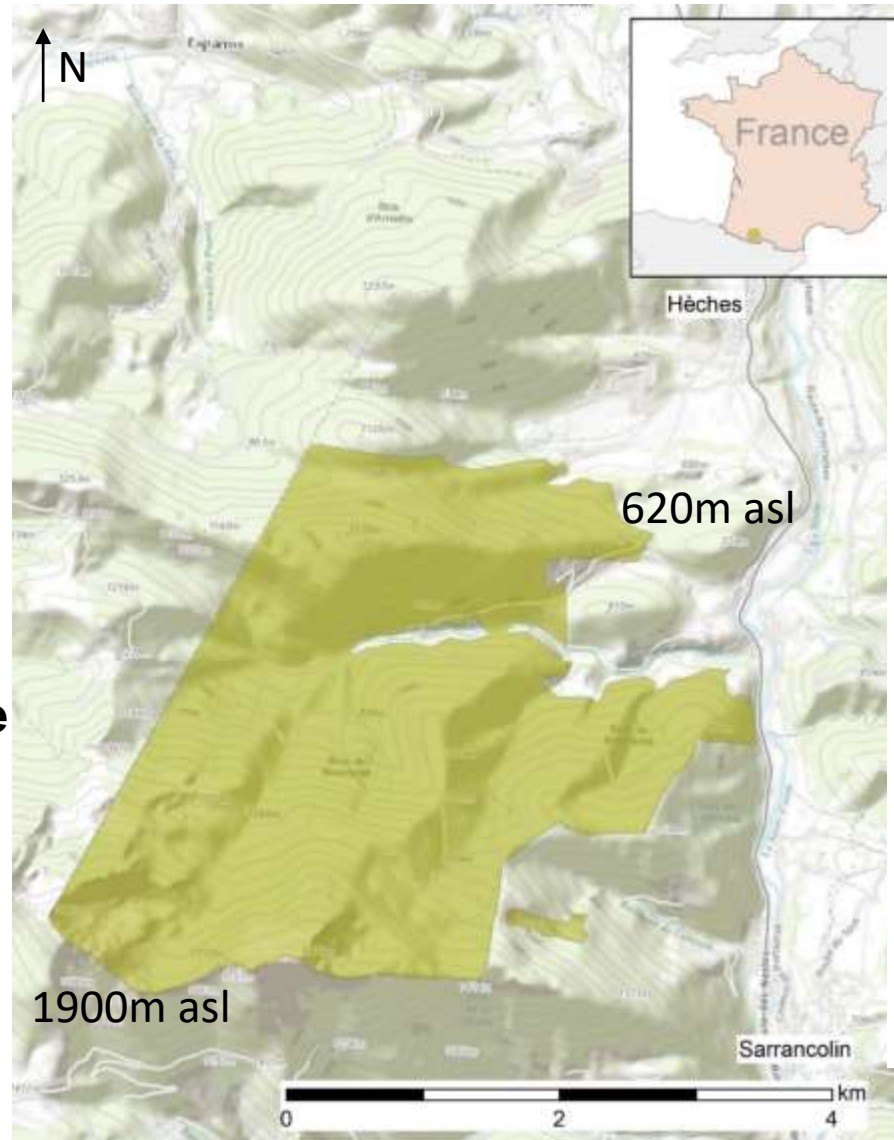


A montane beech- and beech-silver fir-dominated forest

- **Total area 1202 ha**
 - 930 ha forest
 - 272 ha subalpine meadows

➤ **Atlantic-mountain macroclimate**

➤ **19 geological substrata**



An ancient forest in a landscape used by humans for millennia



-16,000y BP

Magdalenian settlements



-5000y BP

Pastoralism



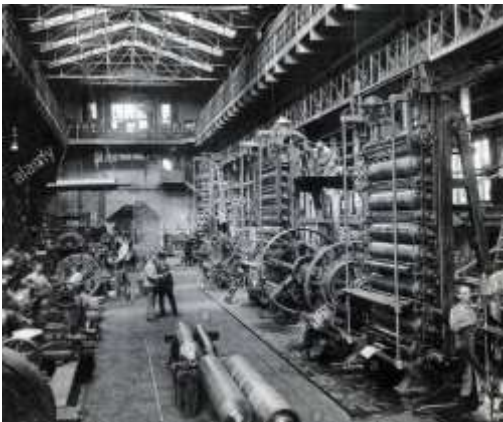
1750

Remaining forest



1600 → 1943

Charcoal production



19th

The owner owns
steel mills



1860

Local farmers buy the property
for livestock requirements



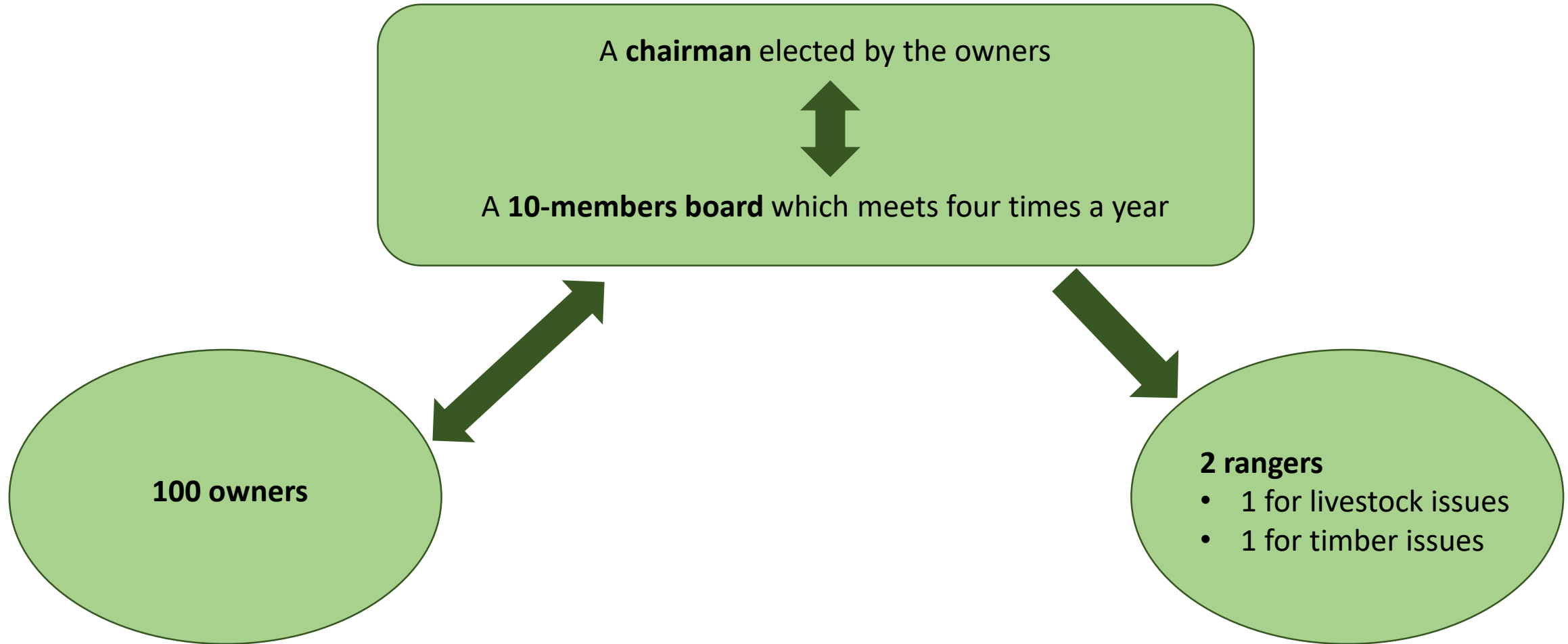
1980

The owners focus on
timber production



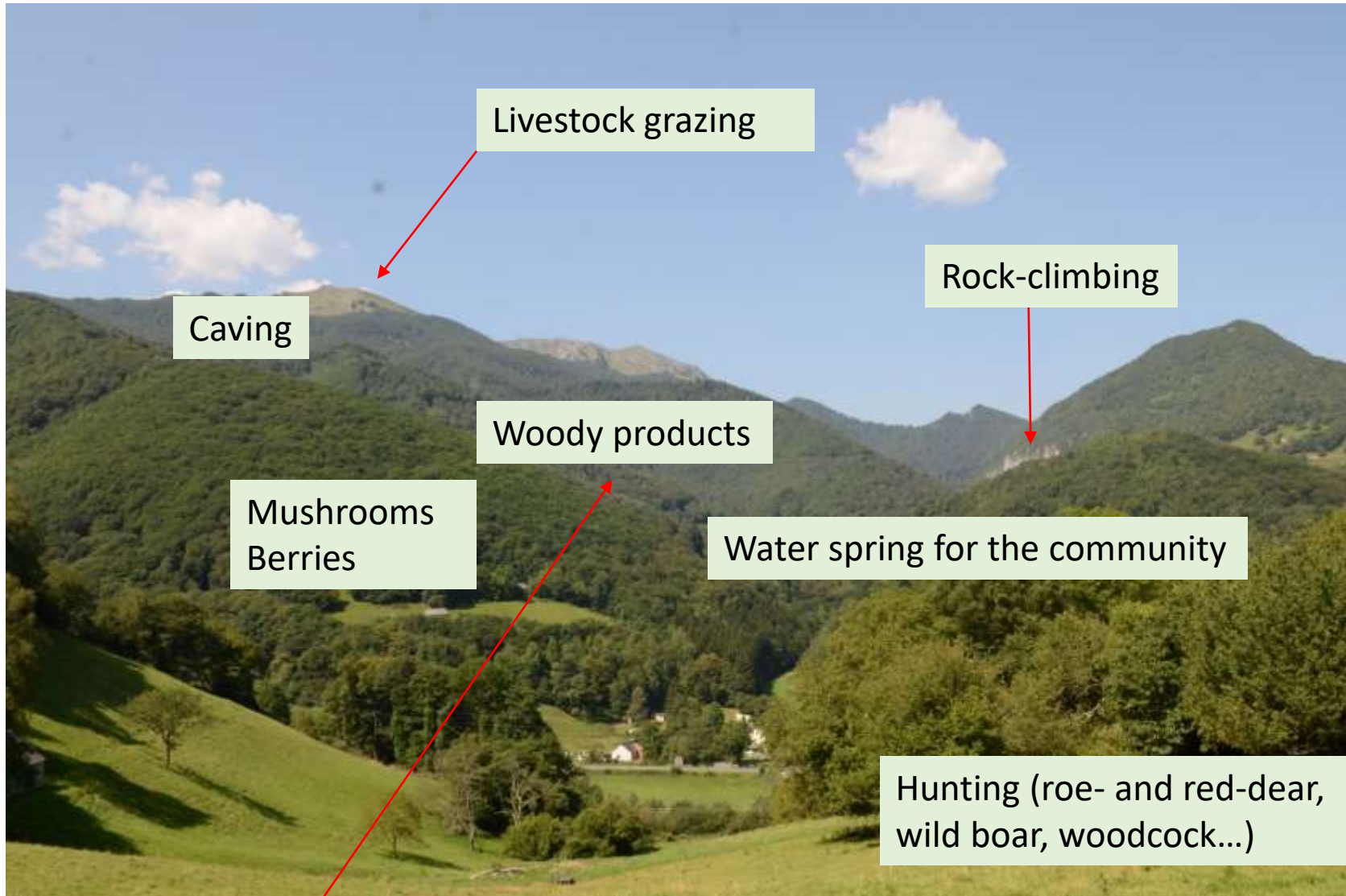
Setting up of a 45 km
road network for trucks

An property owned by 100 people and collectively managed



Once a year, a meeting gathers all the members of the ownership group and the main strategic guidelines are discussed and then approved.

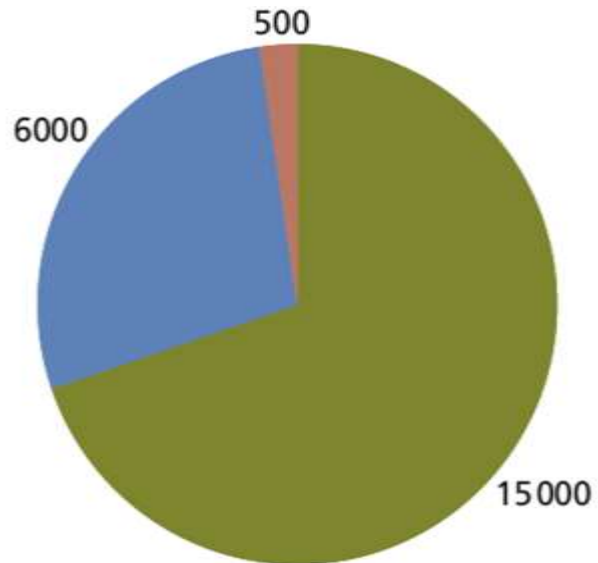
A property managed with several purposes



About 6000 m³/y of timber harvested + 120 m³/y of fuelwood for the owners

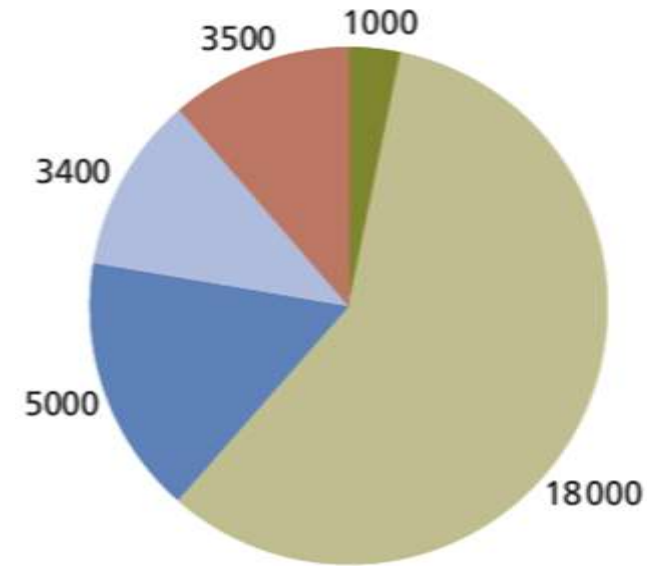
Woody products are always the main income while road-network is currently the main expense

Incomes (€/y)



- Wood products
- Livestock (rent of grazing areas)
- Hunting

Expenses (€/y)



- Plantations (cleaning, pruning, etc.)
- Road network
- Rangers
- Livestock (meadows cleanings, pens)
- Shepherd huts

A study field since 2000: toward an adaptative management...

- Studies focusing on the property

Bull. Soc. Linn. Bordeaux, Tome 145, (N.S.) n°38 (4) 2010 : 397-416.

Contribution à la connaissance des Coléoptères saproxyliques des forêts pyrénéennes (3^{ème} note : la forêt de Hèches, Hautes-Pyrénées)

Antoine BRIN, Hervé BRUSTEL, Lionel VALLADARES
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Laurent LARRIEU
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et CRPF de Midi-Pyrénées, F-65000 Tarbes

Ent. J. Entomol. 112(4): 755-769, 2015
doi: 10.14411/eje.2015.083
ISSN 1210-3759 (print), 1802-8829 (online)

Hoverfly (Diptera: Syrphidae) richness and abundance vary with forest stand heterogeneity: Preliminary evidence from a montane beech fir forest

LAURENT LARRIEU^{1,2}, ALAIN CABANETTES¹ and JEAN-PIERRE SARTHOU^{1,4}

**PRISE EN COMPTE
DE LA FRAGILITÉ CHIMIQUE DES SOLS FORESTIERS
DANS LES CONSEILS DE GESTION.
ILLUSTRATION POUR UNE SAPINIÈRE-HÊTRAIE MONTAGNARDE
SUR ROCHE ACIDE
(VALLÉE D'AURE, HAUTES-PYRÉNÉES)**

LAURENT LARRIEU - CLAUDE NYS - BERNARD JABIOL

- A sampling field site for wider purposes

Documents Mycologiques - Tome n°XXXIV - Fascicule n°135-136 - octobre 2008

Étude mycocoenologique de la hêtraie sèche à *Sesleria caerulea* (*Cephalanthero-Fagion*), des Pyrénées centrales.

par Gilles Corriol* et Laurent Larrieu**

Forest Ecology and Management 334 (2014) 163-173

Contents lists available at ScienceDirect

Forest Ecology and Management

journal homepage: www.elsevier.com/locate/foreco

Deadwood and tree microhabitat dynamics in unharvested temperate mountain mixed forests: A life-cycle approach to biodiversity monitoring

L. Larrieu^{a,b,*}, A. Cabanettes^a, P. Gonin^b, T. Lachat^c, Y. Paillet^d, S. Winter^e, C. Bouget^d, M. Deconchat^a

Insect Conservation and Diversity

Insect Conservation and Diversity (2020) doi: 10.1111/icad.12434

The use of sentinel logs to assess host shifts in early beetle colonisers of deadwood under climate- and forestry-induced tree species substitutions

CHRISTOPHE BOUGET,¹ ANTOINE BRIN² and LAURENT LARRIEU^{2,3,4} ¹INRAE, UR EFNO, Nogent-sur-Vernisson, France, ²Université de Toulouse, INRAE, UMR DYNAFOR, Castanet-Tolosan, France and ³CRPF-Occitanie, annexe de Tarbes, Tarbes, France

A wide range of habitats leads to a high biodiversity

374 species of beetles



104 species of hoverflies



17 species of bats



Several rare plants and mosses



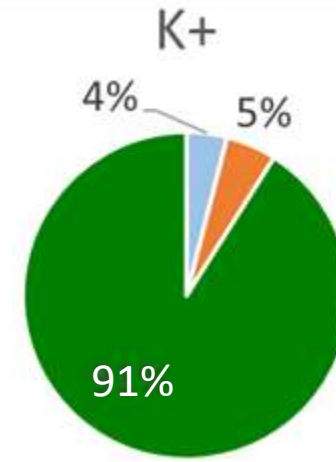
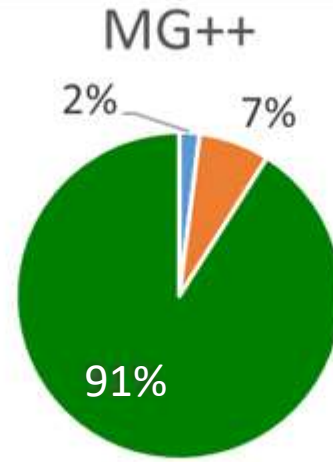
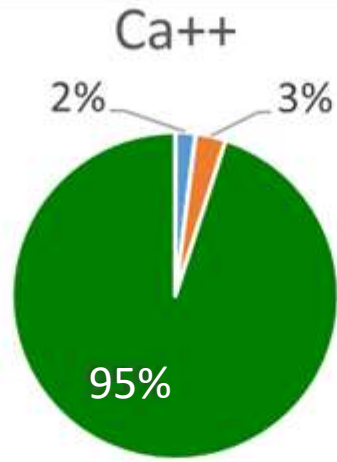
Pyrenean endemic spider



Pyrenean endemic bird



Highly acidic and nutrient-poor soils are a cause for concern



■ Forest floor ■ Soil ■ Trees

About 5% of the forest area

Podzosols & Alocriols analyzed by REGESOL (Larrieu et al. 2006)

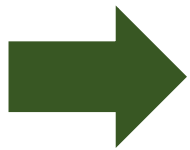
Four examples of integrated management measures applied

- Stopping logging when soils are very nutrient-poor
- Retention of whole unharvested crowns when far from the road
- Time-lagged of a harvesting operation while *Accipiter gentilis* nesting →
- Retention of low-yielding oak-dominated stands →



A key site for training

- Local studies and references
- Wide range of substrata, habitats and soils
- Biodiversity issues
- Multifunctional management



- Students
- Forest managers
- Private owners

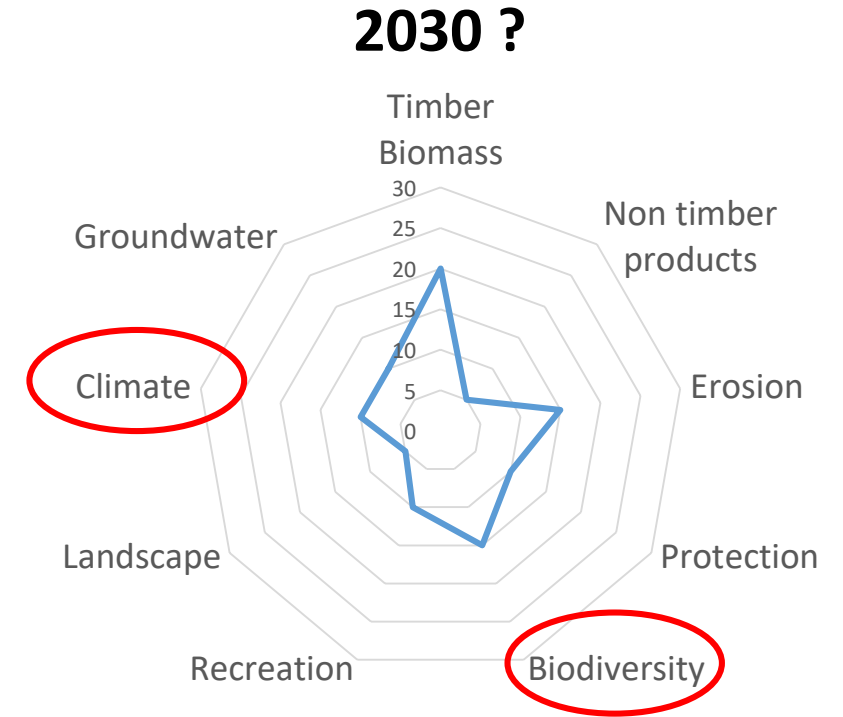
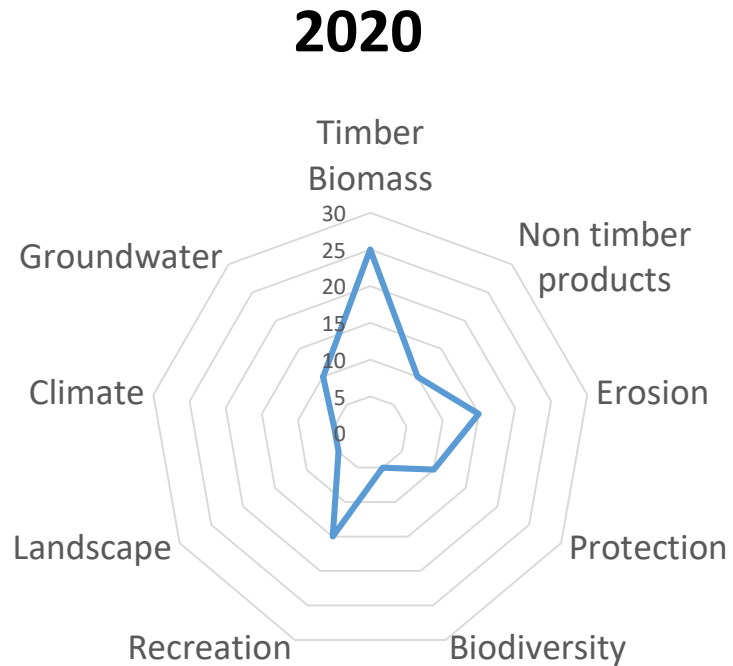


Toward an even more biodiversity-friendly management: setting up a marteloscope for training both board members and rangers



2016

An ongoing strategy to take better account of biodiversity and climate change



Thanks for your attention!