TOUR 2 - « Bocage Forestier » Living Lab

Overview of the Forest Ecosystem

In the heart of the **Landes de Gascogne**, a large forest massif in South-West France, the **"Bocage Forestier" Living Lab** explores innovative strategies to restore biodiversity and improve forest resilience. Covering 1.5 million hectares—of which 73% is forested, and nearly 90% consists of monoculture maritime pine plantations—the area faces increasing risks from storms, pests, and wildfires due to its low species and structural diversity.

General Project Framework

This experimental site, supported by the **EU-funded SUPERB and eco2adapt projects**, addresses these challenges by adopting a landscape-scale restoration approach inspired by the **traditional French bocage system**. Tree-lined edges, or hedgerows, are being studied and reintroduced at the borders of pine plantations to serve as biodiversity reservoirs, wind, fire and pest protection, and a means to enhance ecological connectivity.

Research Conducted

A **50,000-hectare demonstration zone** in southern Gironde serves as the core of the Living Lab, where two complementary studies are underway:



- **Ecological evaluation of existing hedgerows**

INRAE researchers have identified and mapped mature forest edges and selected 36 sites for biodiversity inventories. These studies measure the presence and activity of various taxonomic groups—such as plants, spiders, beetles, birds, bats, and flying insects—under different configurations of connectivity and vegetation density. The role of broadleaved hedgerows as protection against the pine processionary moth is also investigated.

- **Establishment of new hedgerows**

Alliance Forêt-Bois is testing the practical aspects of designing and installing new mixed-species hedgerows. Ten kilometres of new hedgerows will be implemented by 2025, with the aim of developing scalable, field-tested guidelines for regional forest owners and managers.

Led by INRAE, Alliance Forêt Bois and IEFC, the Living Lab integrates **ecological experimentation in consultation with local stakeholders** by contributing to decision-making through regular workshops focused on species selection, technical design, and long-term monitoring and management strategy.

The **"Bocage Forestier" Living Lab** offers a concrete example of how multifunctional landscapes can be reshaped to meet the challenges of climate uncertainty, biodiversity loss, and the evolving demands on Europe's forests.

For more information, please visit:

- Planted Forests. Superb bocage forestier. Planted Forests.
- Forest Restoration. Demo area Aquitaine. Forest Restoration.
- INRAE. Diversité fonctionnelle au cœur de la protection des forêts.