



# CESAB

CENTRE FOR THE SYNTHESIS AND ANALYSIS OF BIODIVERSITY

## ACCOUCÈNE

Towards a silent spring ? Modeling and projecting the impacts of the anthropocene on soundscapes with birds as an acoustic ecological indicator

### PRINCIPAL INVESTIGATORS:

Jean-Yves BARNAGAUD,  
EPHE (FR) / Solène CROCI,  
CNRS (FR)

### START AND FINISH:

2022-2025

### CO-FUNDING:



### 12 PARTICIPANTS :

Luc BARBARO - INRAE (FR) /  
Jonathan CARRUTHERS-JONES  
- University of Leeds (UK) / Alice  
ELDRIDGE - University of Sussex (UK) /  
Alison FAIRBRASS - University  
College of London (UK) / Almo FARINA  
- University of Urbino (IT) / Amandine  
GASC, IRD (FR) / Charène GEMARD  
- CNRS (FR) / Sandra MÜLLER -  
University of Freiburg (DE) / Gwenaël  
QUAINTENNE - LPO (FR) / Louis  
SALLE - LPO (FR)

Regional-level strategies for biodiversity conservation necessitate networks of connected habitats in which species can circulate free of any anthropogenic barrier all along their lifecycle. **The idea of a similar network for soundscapes, the acoustic component of landscapes, has emerged to protect animal species interacting through sounds.** This network, coined the “white thread”, would contribute to warrant the integrity of soundscapes, as required by a French parliament law voted on January 29, 2021.

A reference state for continental France’s white thread is necessary but faces the lack of direct recordings of soundscapes. **ACCOUCÈNE will tackle this aim through model-based soundscapes reconstruction, focusing on a flagship indicator of biodiversity declines, bird sounds.** ACCOUCÈNE will proceed in four stages :

- the construction of soundscapes from bird sounds recordings gathered from citizen-science databases, paired with bird community composition data from atlas and breeding bird surveys;
- a network-based model of the white thread and of its predicted variations due to bird community changes in the 30 last years;
- predictions on its future in the face of climate and land use changes: ACCOUCÈNE aims to predict the influence of bird community changes on the soundscapes of continental France;
- the identification of high-patrimonial value areas based on the characteristics of the white thread.

### CESAB

*CESAB (Centre for the Synthesis and Analysis of Biodiversity) is FRB’s flagship program and an internationally renowned research center whose objective is to implement innovative work to synthesize and analyze existing data sets in biodiversity research.*

