

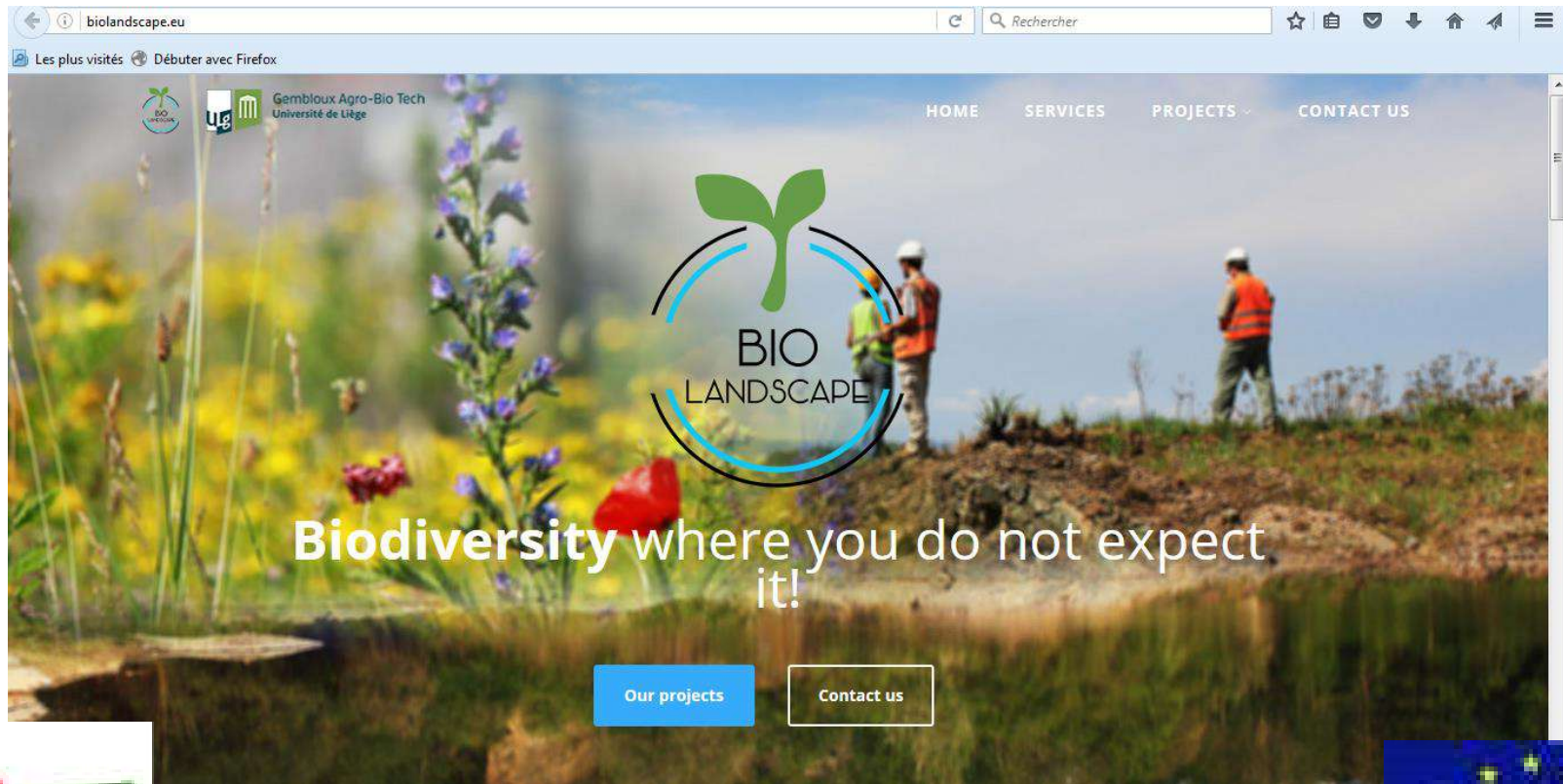
BIODIVERSITY FOR EXTRACTIVE BUSINESS ECOSYSTEM

G. Mahy



<http://biolandscape.eu>

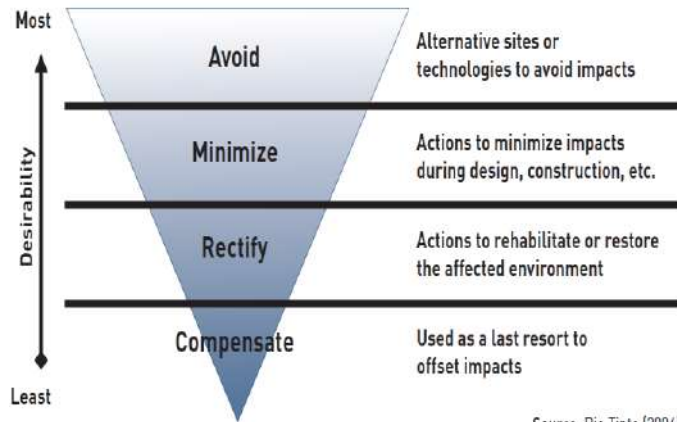
G. Mahy







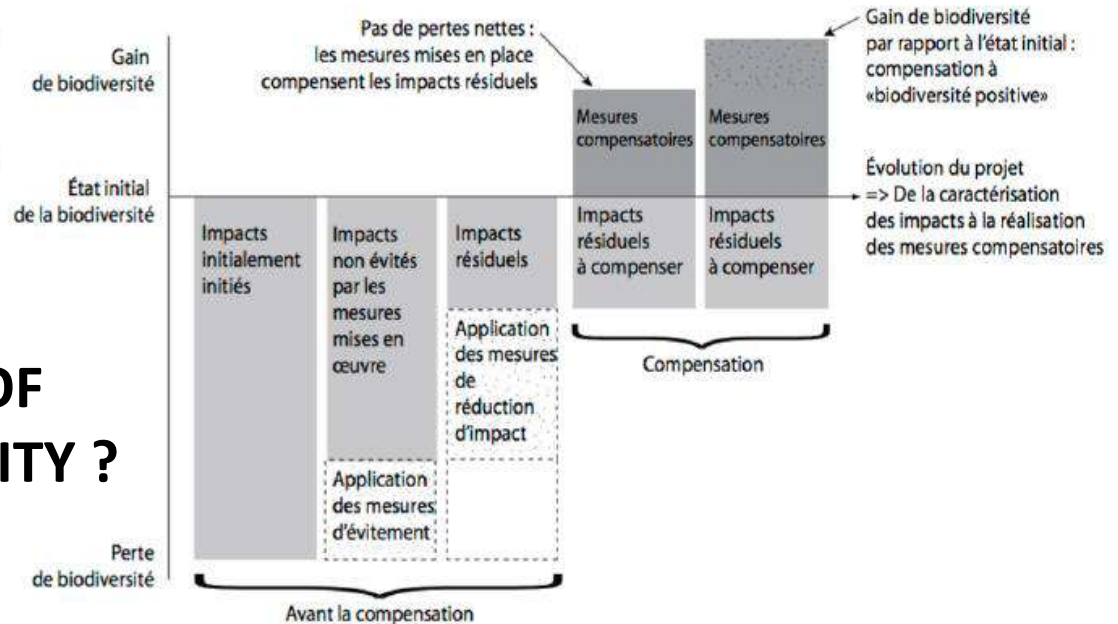
Management of biodiversity in extractive business ecosystem



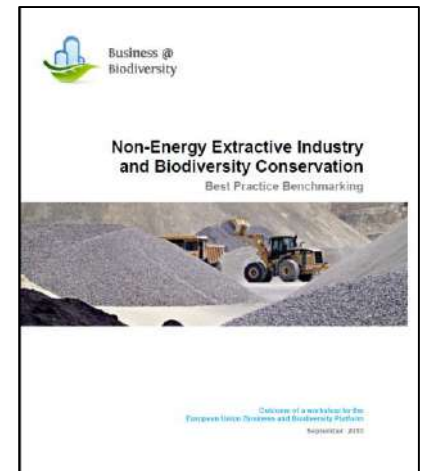
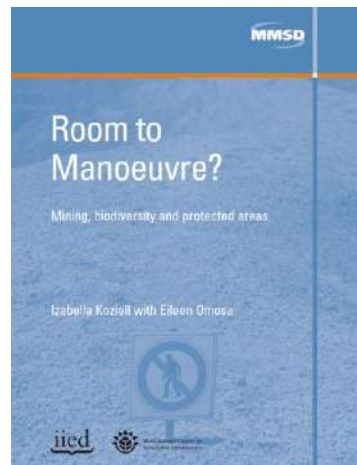
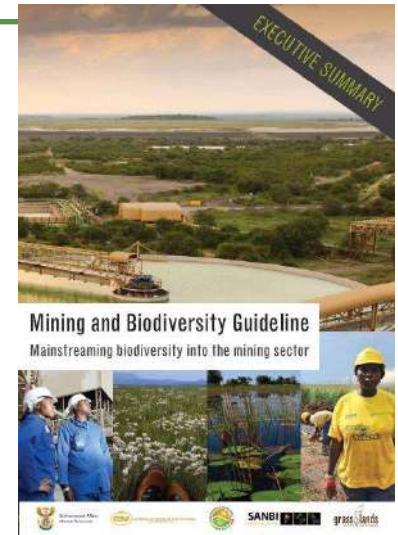
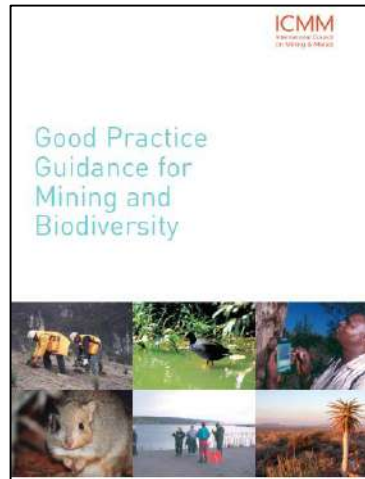
Source: Rio Tinto (2004)

From minimization to ...

... NET POSITIVE EFFECT OF BUSINESS ON BIODIVERSITY ?



Minimizing impact on natural high biological value ecosystems

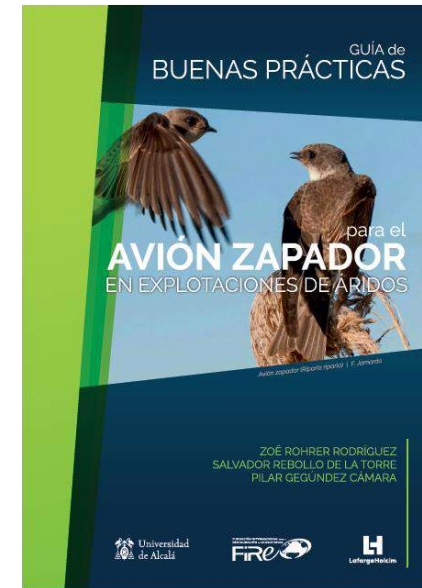
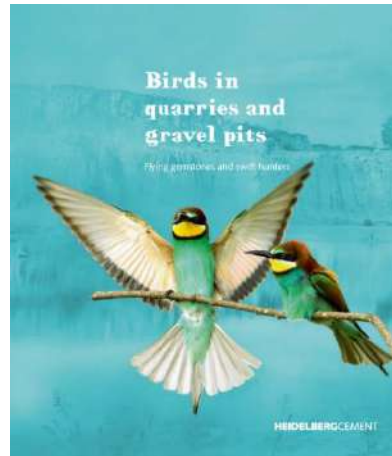


Minimizing impact on natural high biological value species

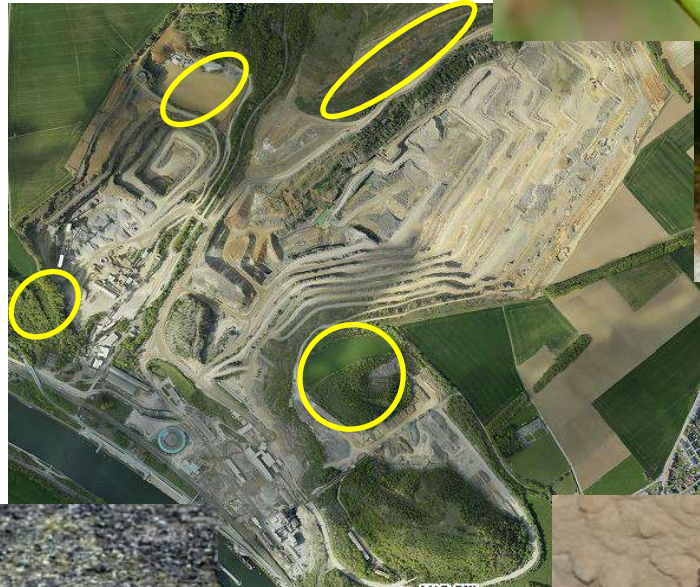
EUROPE



HEIDELBERGCEMENT



Restauration of stable habitats



LIMITS - Restaurable ?



Quarries ... an opportunity to develop biodiversity in human dominated landscapes



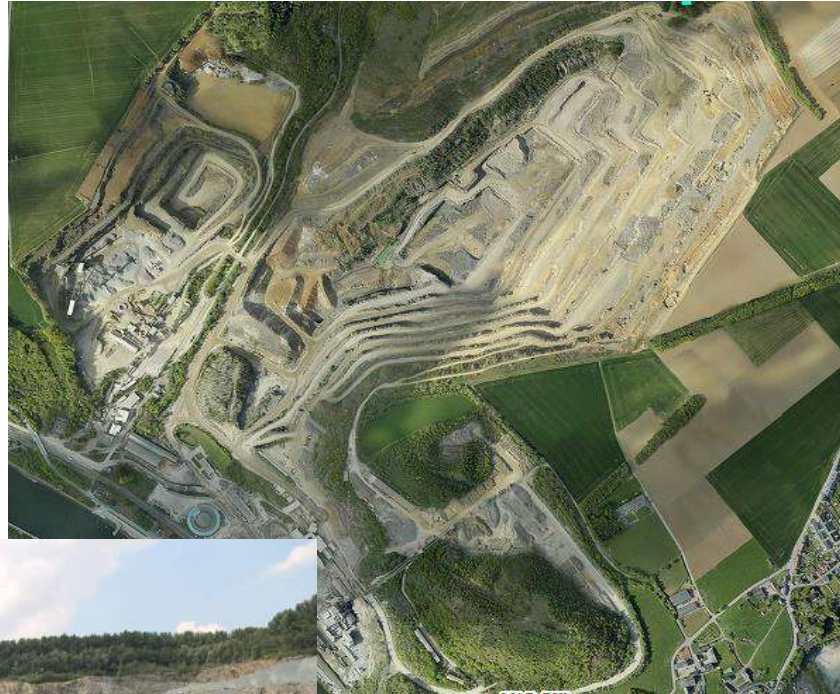
Quarries ... an opportunity to develop biodiversity in human dominated landscapes



Perturbations

Heterogeneity

Dynamic environment



Rare ecological conditions

Nutrient poor soil

Bare ground

And in active Quarries?



Exploitation stages lead to a patchwork of habitats

Screes and gravel beds



Temporary ponds



Muddy banks



Pioneer vegetations



Unstable Cliffs

Riparian sand banks



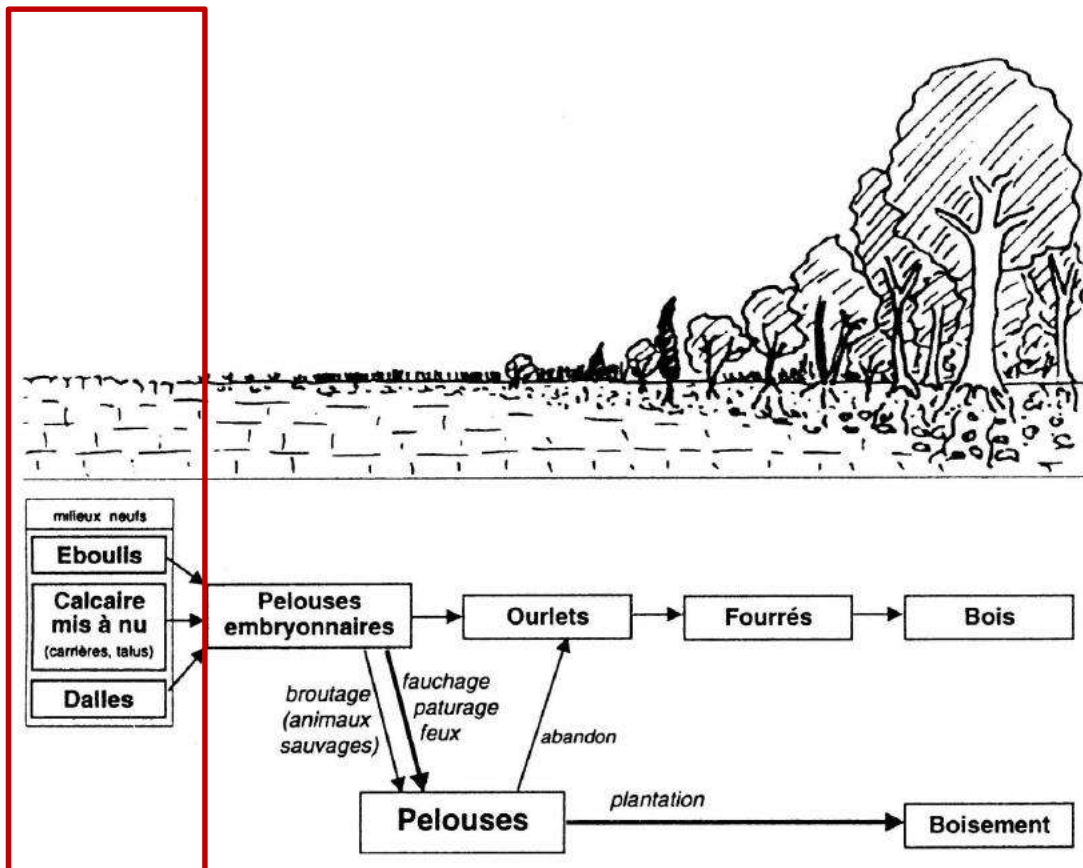
**And in active
Quarries?**



And in active Quarries?



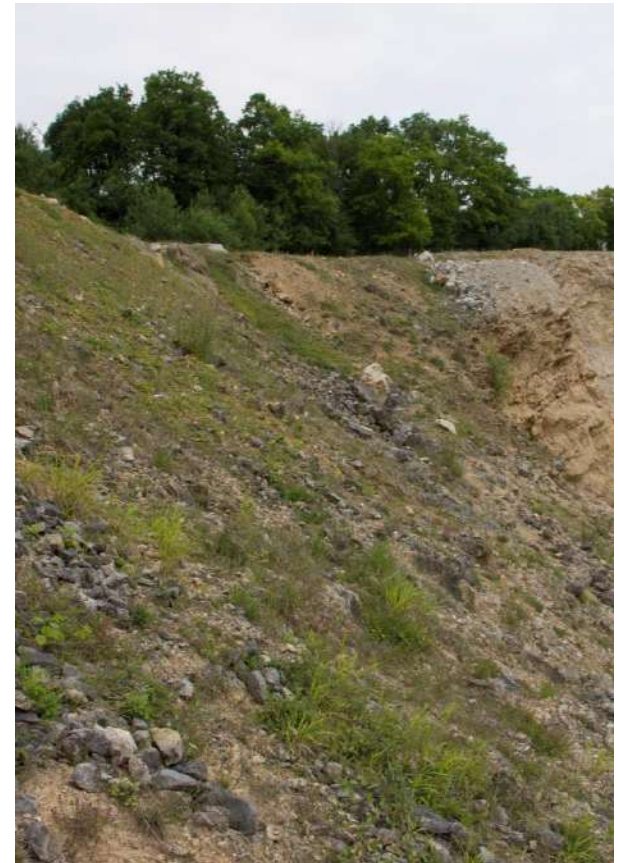
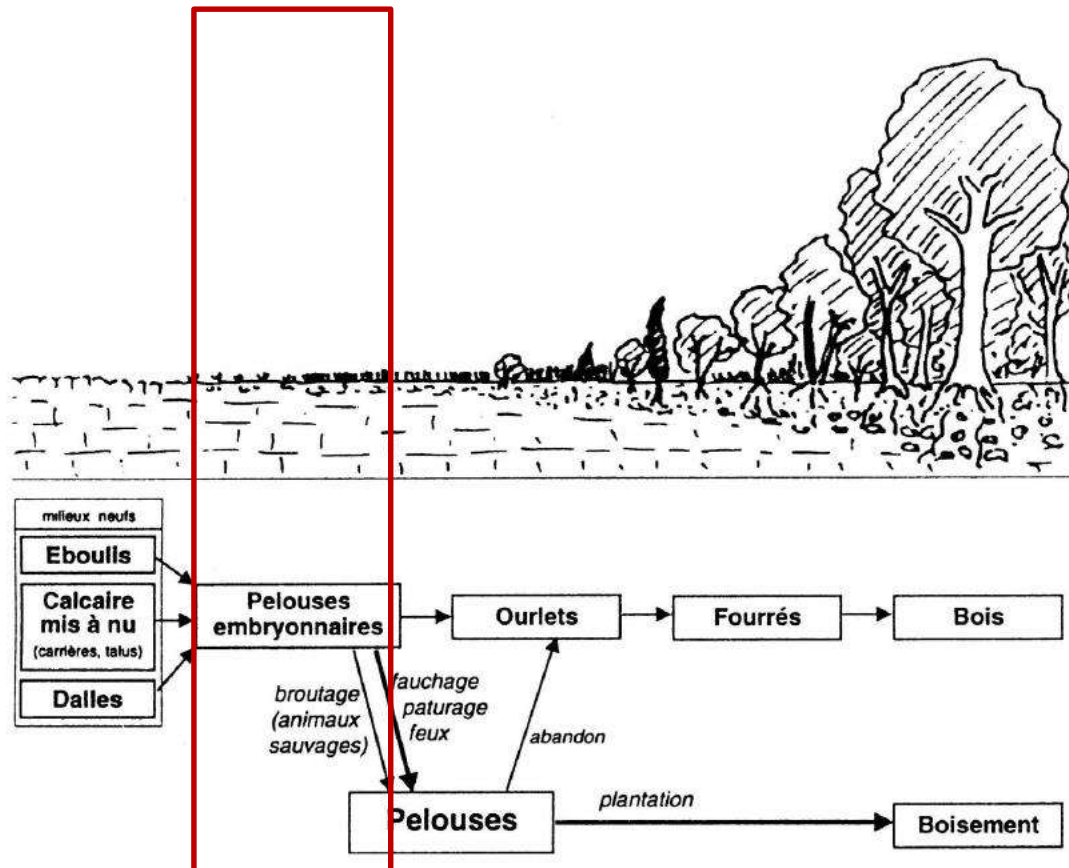
Dynamic



And in active Quarries?



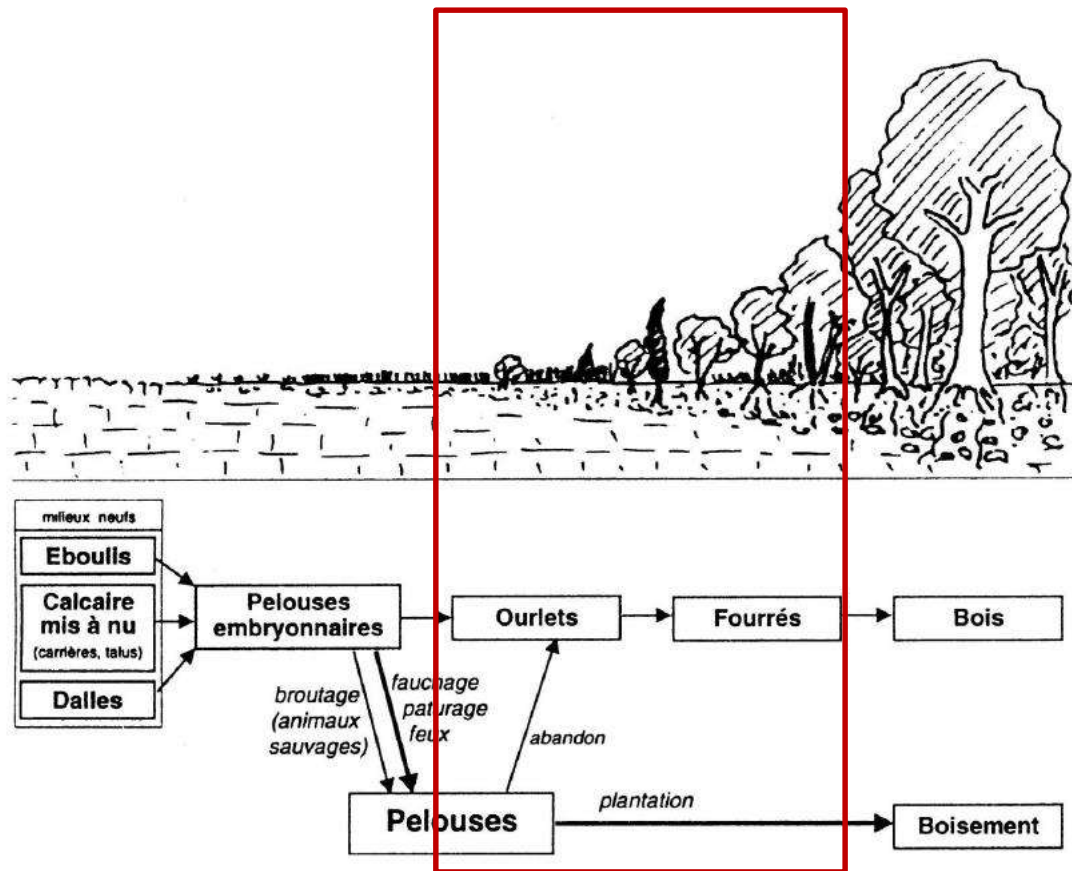
Dynamic



And in active Quarries?



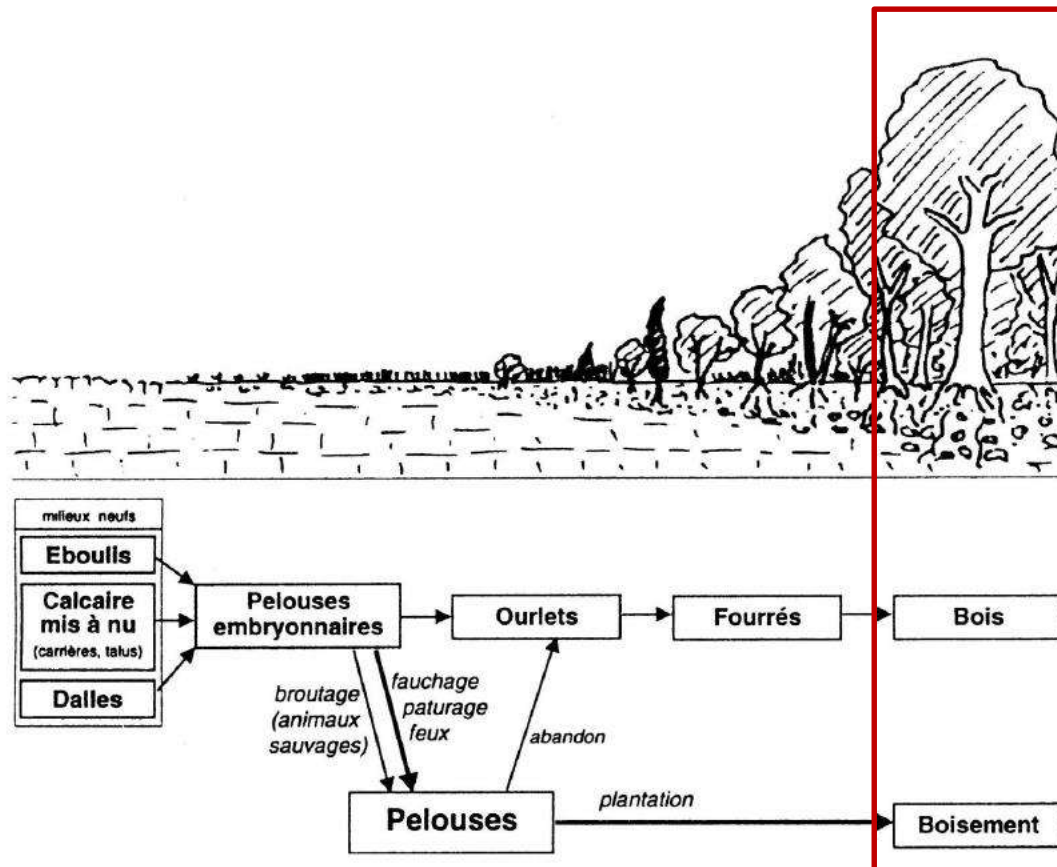
Dynamic



And in active Quarries?



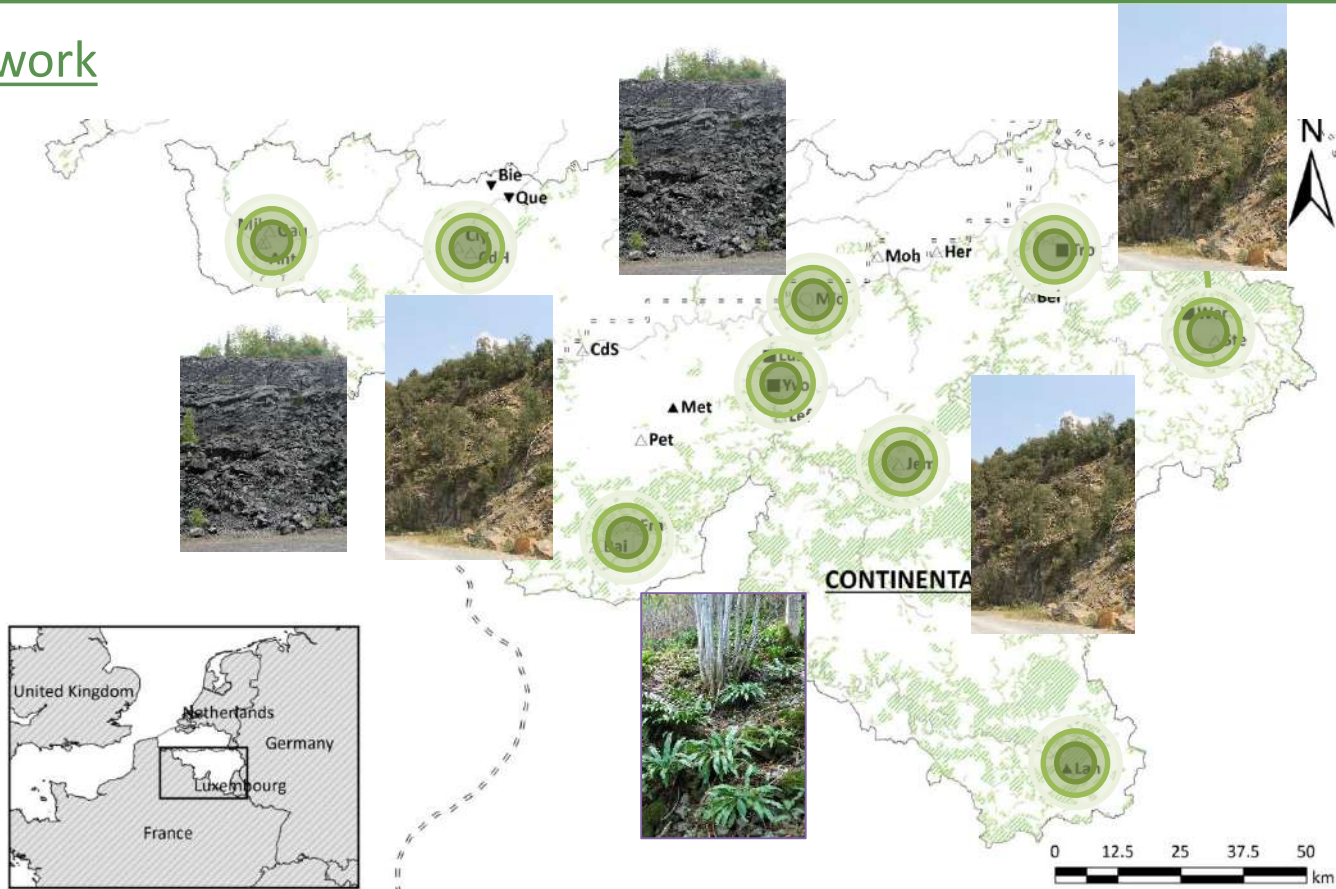
Dynamic



Management of biodiversity in extractive business ecosystem



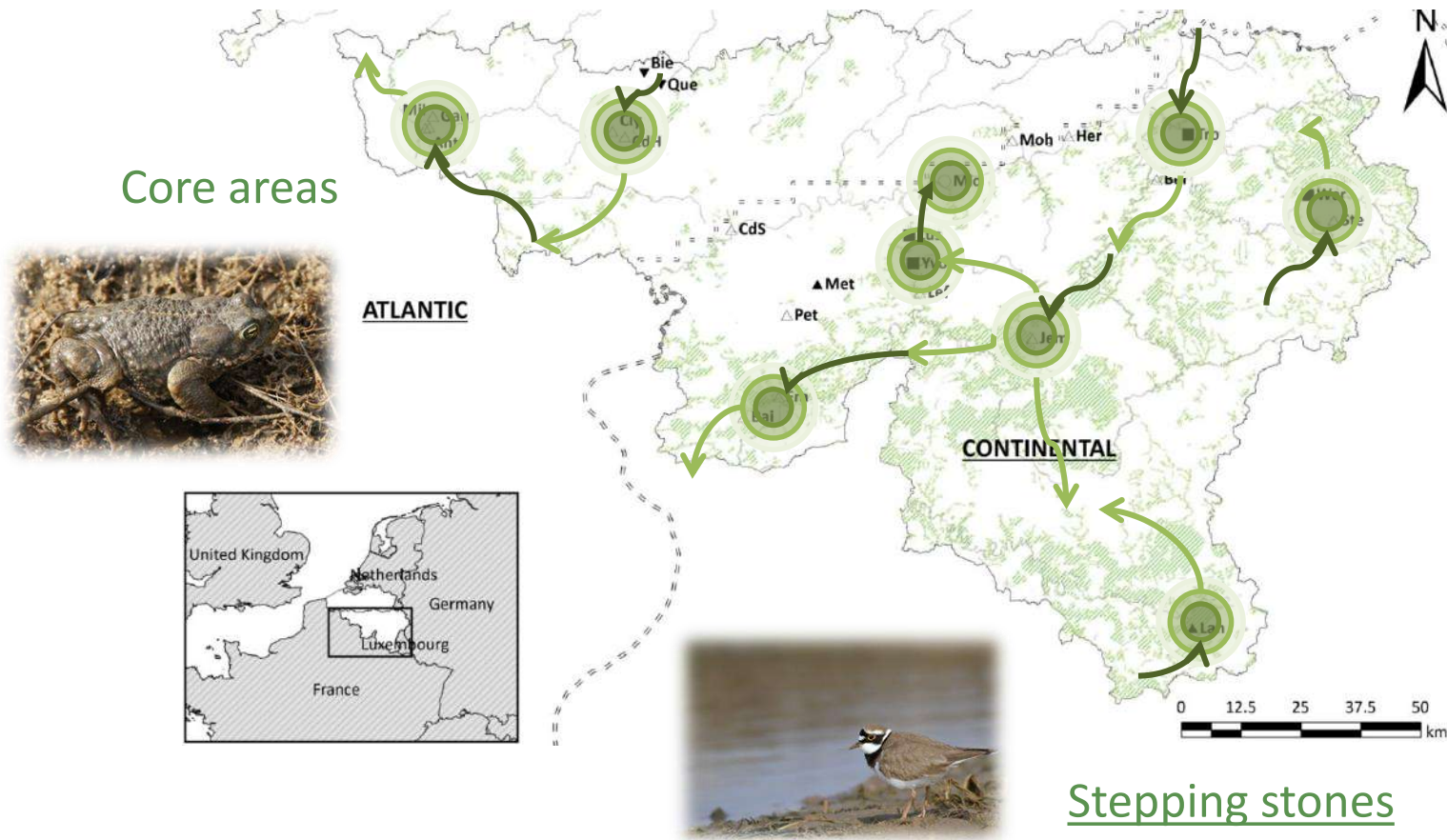
Network



Management of biodiversity in extractive business ecosystem



Contribution to ecological networks



**And in active
Quarries?**



Main question in active quarries?



***Against
or
Together
?***

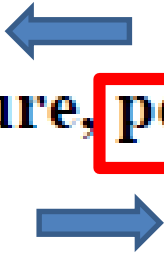


Together



Biodiversity and People in the extractive business ecosystem

An Action Plan for nature, people and the economy

A diagram consisting of two blue arrows. One arrow points to the left, positioned above the word 'people' in the text below. The other arrow points to the right, positioned below the word 'people'. The word 'people' is highlighted with a red rectangular border.

[illegible]

Apple's Business Ecosystem (Excerpt)

The diagram illustrates the Apple ecosystem centered around the **Apple Platform**. It is organized into several layers and stakeholder groups:

- Core Value Proposition:** The central hub where the Apple Platform interacts with various stakeholders.
- Complementary Offerings:** Includes **Developer Community**, **Media Industries**, and **Retail/Certified Partners** (e.g., Gravis).
- Supplying and Enabling Network:** Includes **Official Accessory Manufacturers** (e.g., Belkin), **Apple Store Logistic Partners** (e.g., TNT, UPS), **Software Developers** (e.g., Adobe), and **Apple Users**.
- Other Stakeholders:** Includes **Hardware OEM's** (e.g., Foxconn), **Technical Backend Providers** (e.g., SAP), **IT-Infrastructure Partners** (e.g., Akamai), **Media Industries**, **Retail/Certified Partners** (e.g., Gravis), **Official Accessory Manufacturers** (e.g., Belkin), **Apple Store Logistic Partners** (e.g., TNT, UPS), **Software Developers** (e.g., Adobe), **Apple Users**, **Apple Communities**, **Other Stakeholders** (e.g., Schools and Universities), and **Microsoft, Google, etc.**

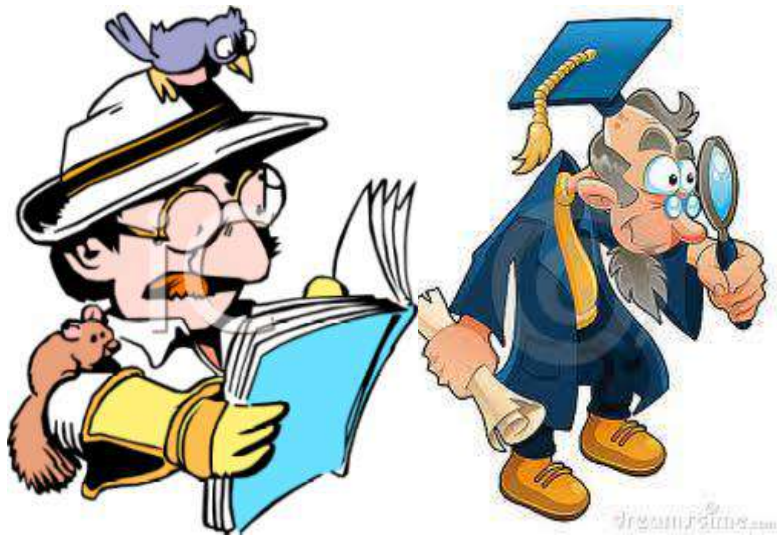
Legend:

- Goods & Services
- - - Money & Credits
- - - Information
- - - Intangible Value

Interacting living organisms, the physical environment and their interrelationships.



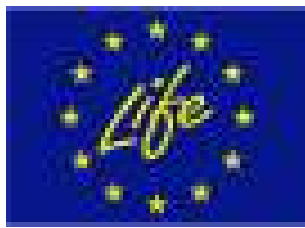
Autonomy



- Quality of decision
- Trust and legitimacy of stakeholders
- Understanding and acceptance



WELL BEING

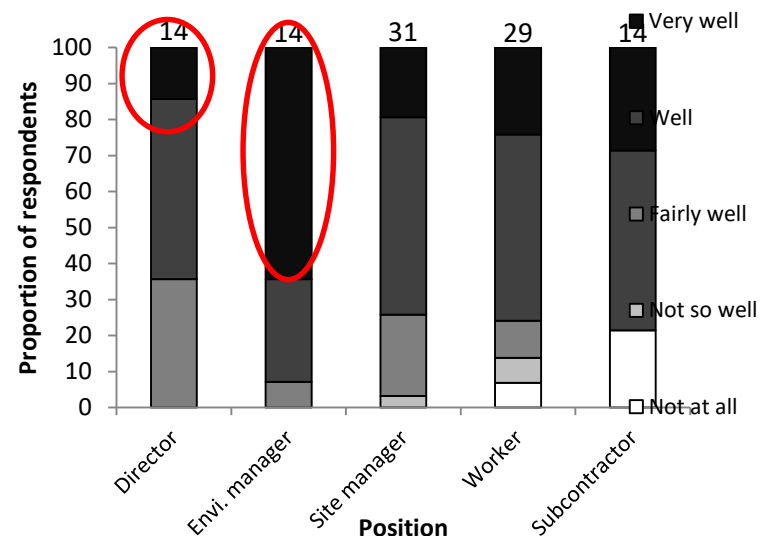


One hundred and two structured and face-to-face interviews
All the positions in the companies (i.e. director, environmental and site manager, worker and subcontractor)



- The quarrying sector knows about biodiversity, is interested in it and involved in its preservation.
- The term “biodiversity” was sometimes half- or misunderstood.
- Generally, actors want to be competent not only informed.

Levels of knowledge, interest and involvement slightly differ among the positions in the company



Repartition of the level of understanding of the term “biodiversity” depending on the position in the company

INTERNALIZATION

Training

Individual implication

Biodiversity included in the environmental management system with user-friendly tools

Trust between actors within the BE



Action D4 aims at providing, **to quarry managers/biodiversity responsible and workers**, means to **monitor by themselves** the evolution of temporary nature (resulting from C2) on their sites.

This action aims at **integrating biodiversity challenges as well as daily management practices in all compartments of the structure** of quarry partners (from the top to the base) through adapted trainings and production of training and management supports

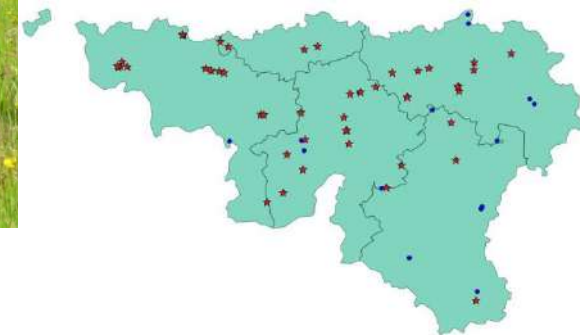
Training module for top manager (CEOs)

Training module for Mr/Ms biodiversity in quarry sites

Training module for workers



4 days dedicated training with theory, practices, fields

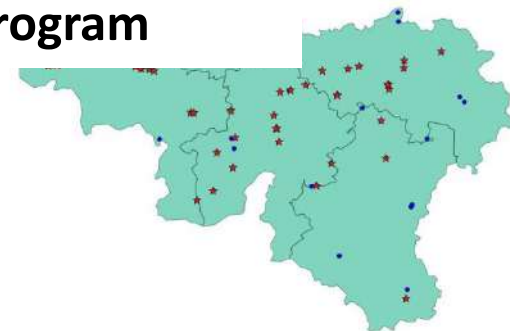




4 days dedicated training with theory, practices, fields

RESULTS

- **40 quarries with trained biodiversity manager**
- **Spontaneous demand for new training sessions**
- **Identification of knowledge gaps by trained people**
- **Increase acceptance of an ambitious LIFE program**



**Top manager training
CEOs
Site director**

**45 minutes !!!!!
Using existing slot
+
On line 5 minutes videos**



Workers training

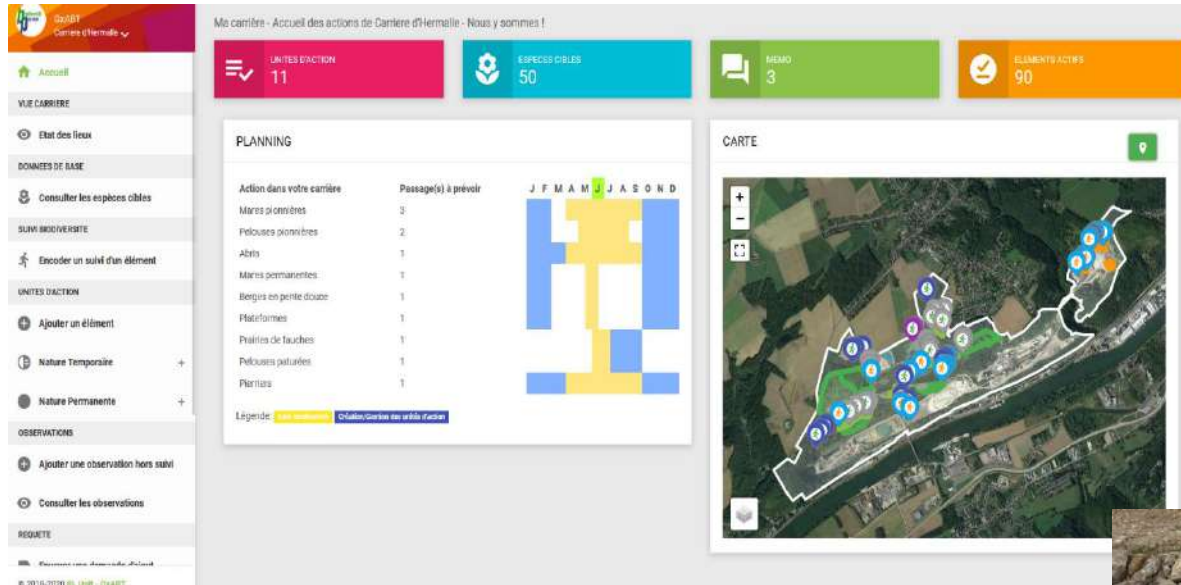
In the quarry / on the daily zone of working / - ½ day
Targeted to temporary nature in active sectors of the quarry
(direct contact with day to day operation)
Targeted to actions easily implemented by workers





INCLUDE BIODIVERSITY IN THE ENVIROMNETAL MANAGEMENT SYSTEM

MANAGEMENT AND MONITORING TOOLS



Quelle est la couleur des papillons?

Cochez le plus haut niveau observé.

☐ Aucun papillon ou uniquement des blancs

☐ Présence de bruns

☐ Présence de bleus

☐ Présence de noirs/blancs



© Life in Quarries. Conçu par Biodiversité et Paysage
(GxABT – Université de Liège)



Key messages

From biodiversity ... to ... nature, people, economy

- Clarify the links (+/-) between your business ecosystem and biodiversity : direct / indirect / including ecosystem services
- Regional network strategy provides added value
- Identify values for biodiversity at all levels of your company to increase awareness
- Consider immaterial values of biodiversity (well being) in your business ecosystem
- Collaborators should be active actors of the biodiversity strategy
- Integrate biodiversity in your environmental management system

Thank you for your attention

