



LIFE IN QUARRIES PROJECT - BIOLOGICAL INVENTORIES

BIODIVERSITY MANAGEMENT IMPLICATIONS

Life in Quarries Project



Innovating partnership: multi-sectorial collaboration

“ Industry – Public authority– University – NGOs”



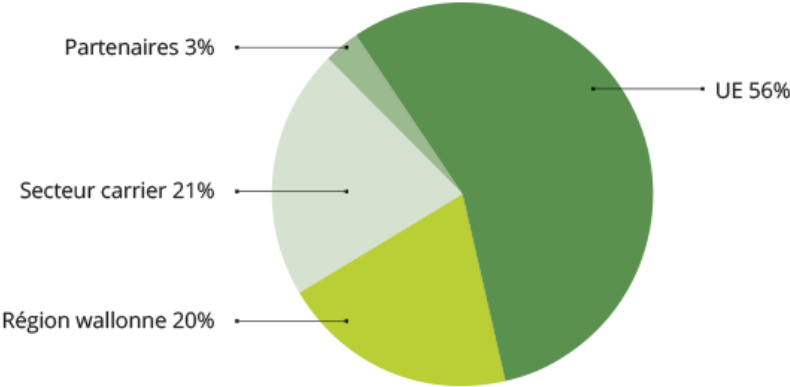
Life in Quarries Project



Duration: 5 years [2015 – 2020]

Budget: € 5 millions

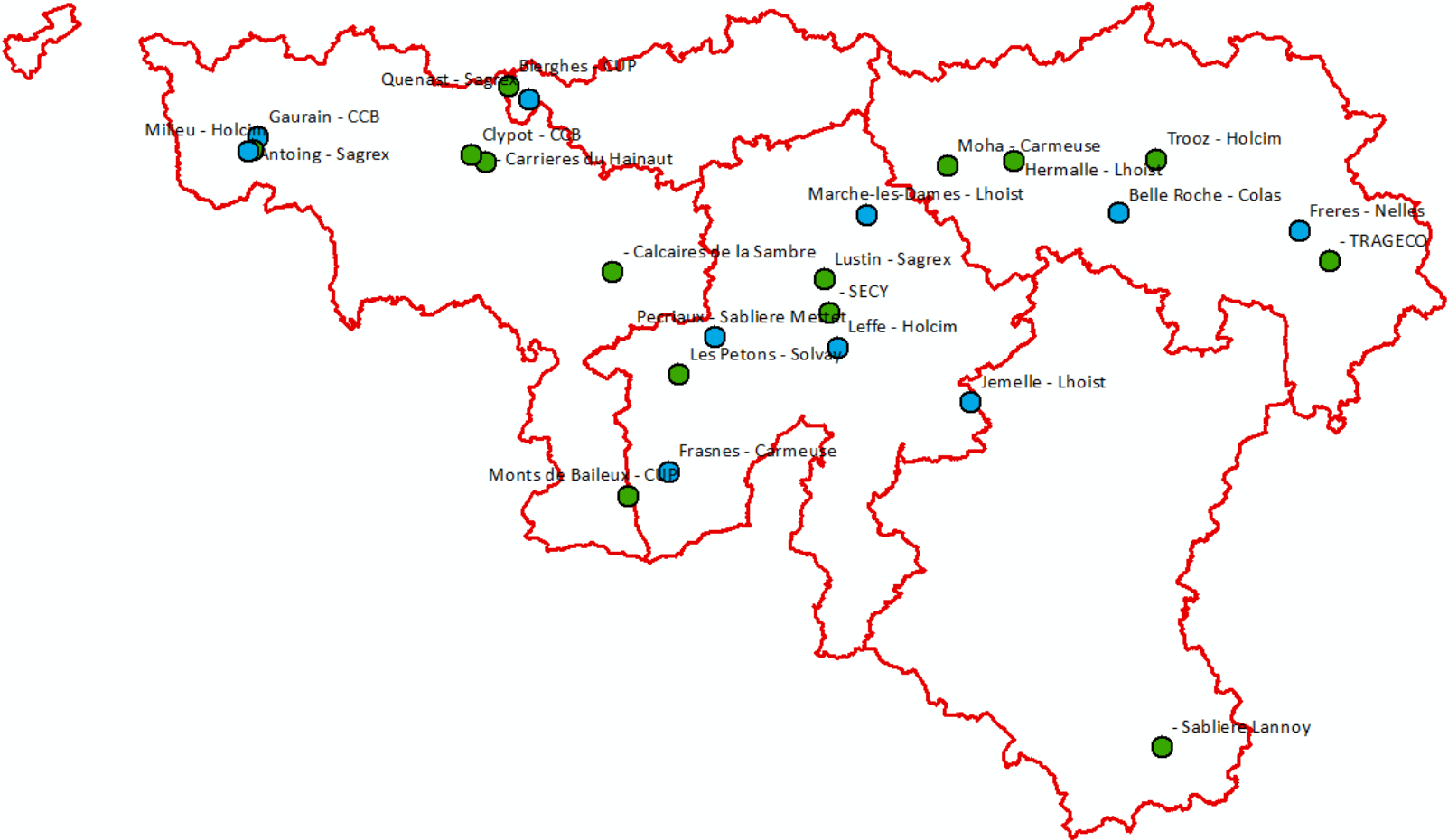
Implementation: Through quarries' human and machines ressources



Life in Quarries Project



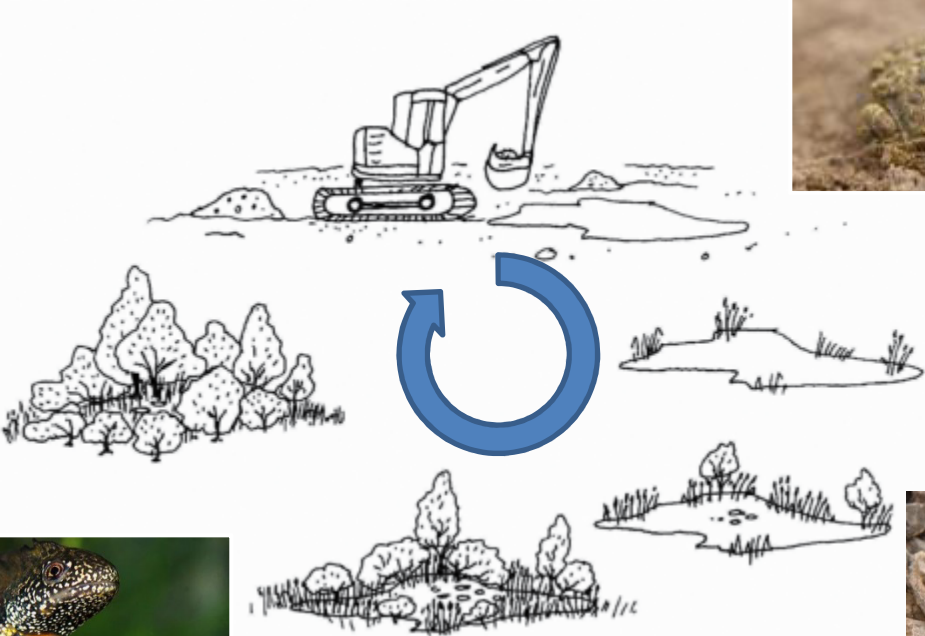
Project in 2 phases – on 24 sites



Dynamic management of nature

From...

Temporary habitats



To... Permanent habitats

The 3 pillars of the project



On-site demonstration

Test & validate best practices
Dynamic management of biodiversity in the framework of extraction plans

Legal analysis and support

Finding an incitative framework
Long term effect of the project

Communication

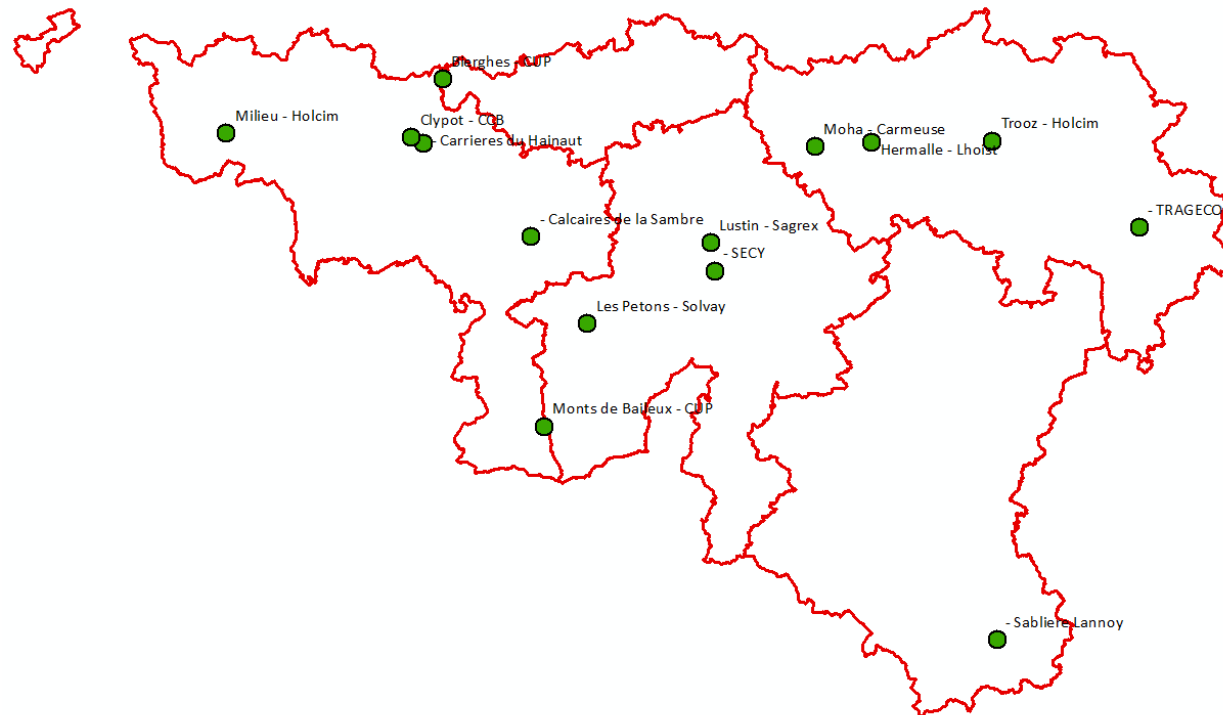
To the sector and its stakeholders
Large diffusion of project actions and results

Goal: Develop biodiversity management plans



**On Site
demonstration**

**Phase I [2015 - 2019]
Implementing biodiversity management plans
in 14 walloon quarries**



Goal: Develop biodiversity management plans



On Site demonstration

Develop management plans along with quarry personal

Dynamic management of biodiversity



Creation of temporary habitats ... but permanently available on site



Goal: Develop biodiversity management plans



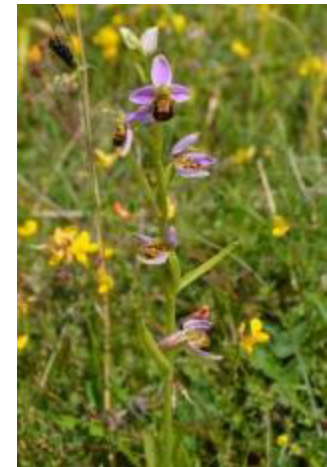
On Site demonstration

Develop management plans along with quarry personal

Dynamic management of biodiversity 

Permanent nature management 

Prepare restoration... to maximize post-exploitation hosting capacity for biodiversity



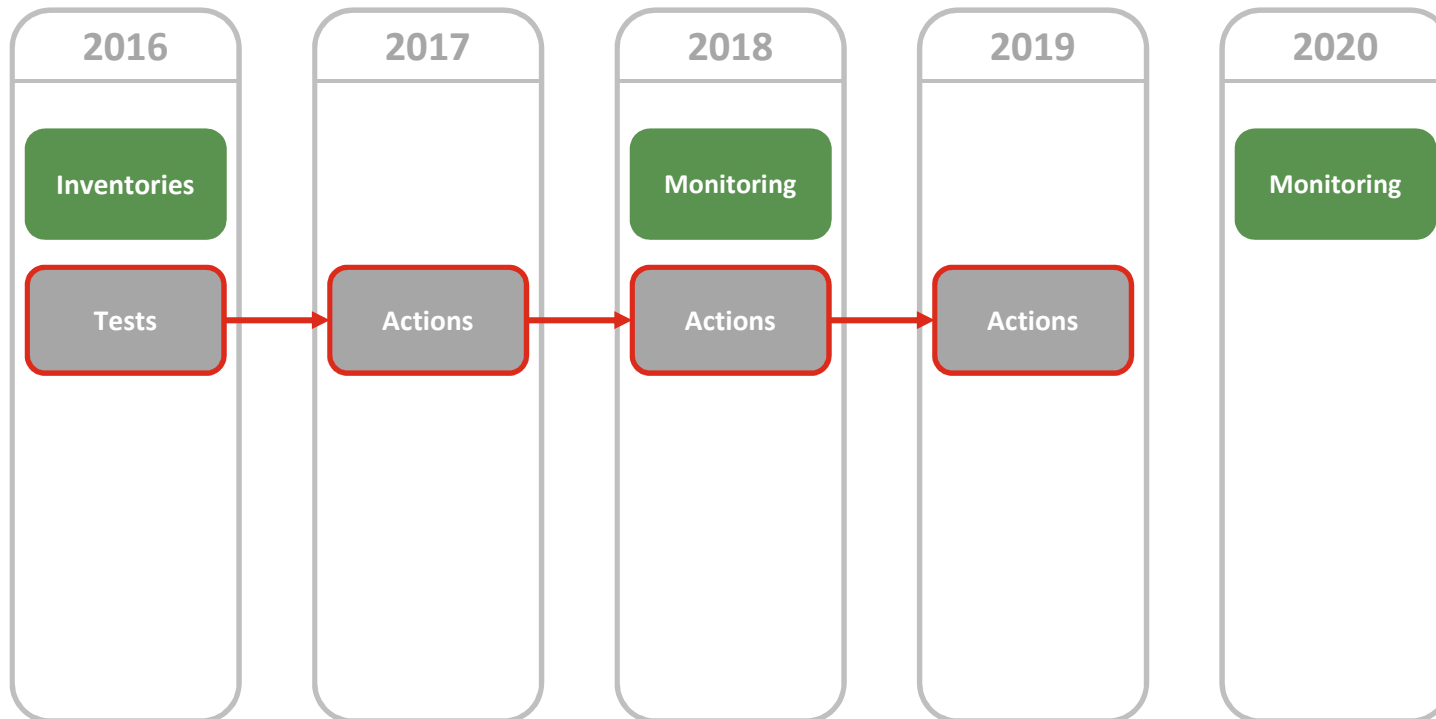
Goal: Develop biodiversity management plans



On Site demonstration

Phase I [2015 - 2019]
Implementing biodiversity management plans
in 14 wallon quarries

Phase 1



Goal: Develop biodiversity management plans



On Site demonstration

Inventories

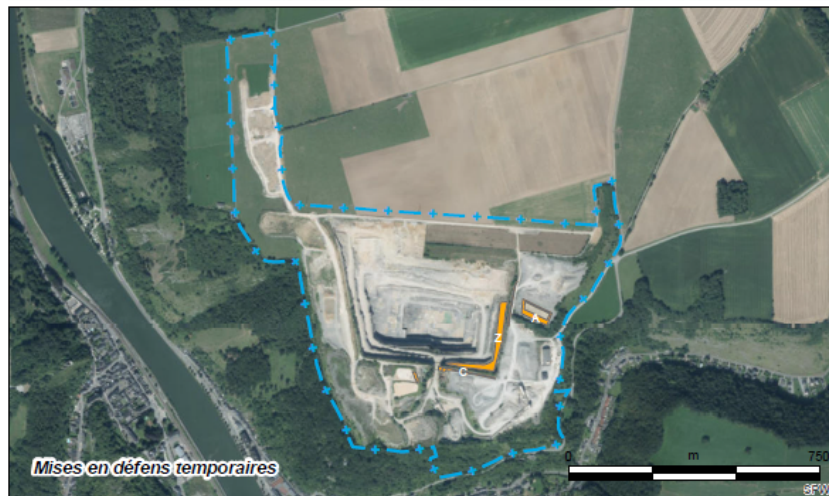
Identify target species & habitats & define biological context

Five target biological groups

- Vascular plants
- Dragonflies
- Amphibians
- Reptiles
- Birds



Goal: Develop biodiversity management plans



Plan d'actions : Carrière de Leffe - Holcim

Nature temporaire (code action - Nb)

- Mares temporaires
- Falaises meubles à Hironnelles
- Abris
- Introduction Triton crêté (à confirmer)

Nature permanente (code action - Nb)

- Mares permanentes
- Berges en pentes douces (à confirmer)
- Gîtes à Chauves souris
- Pierriers linéaires
- Pierriers linéaires (à confirmer)

Actions surfaciques

- Mise en défens temporaires
- Restauration, Mise en place de clôtures et Convention de pâturage
- Restauration et autre type de Convention

Inventaires sites Phase II.1 : Actions du plan de Gestion

Site : Carrière de Leffe - Holcim

Date : 5/04/2018

Remarques : Document à lire avec le plan d'actions

AUTEURS :
 Unité Biodiversité et Paysage (Gembloux Agro Bio-Tech, ULg)
 Natagora Asbl
 Parc Naturel des Plaines de l'Escaut
 FEDIEK
 LIFE In Quarries - LIFE 14 NAT/BE/000364
 info@lifeinquarries.eu / www.lifeinquarries.eu



Presentation Structure



- Outcomes of target groups inventories
- Related actions within the Life In Quarries project
- Case study

Water bodies : Amphibians & Dragonflies



Water bodies : Amphibians & Dragonflies

Inventories

Amphibians

Presence of 12 out of 13 Walloon species

Pioneer nature

Natterjack toad (*Bufo calamita*) (6)

Midwife toad (*Alytes obstetricans*) (9)

Permanent nature

Great crested newt (*Triturus cristatus*) (2)

Pool frog (*Rana lessonae*) (4)



Water bodies : Amphibians & Dragonflies

... and also



Alpine newt
(Ichthyosaura alpestris) (11)



Smooth newt
(Lissotriton vulgaris) (10)



Common frog
(Rana temporaria) (9) &
Common toad *(Bufo bufo)* (10)

Water bodies : Amphibians & Dragonflies



Inventories

Dragonflies

Presence of 32 out of 64 Walloon species

Pioneer nature

Keeled skimmer (*Orthetrum coerulescens*) (3)

Southern skimmer (*Orthetrum brunneum*) (5)

Scarce blue-tailed damselfly (*Ischnura pumilio*) (7)



Water bodies : Amphibians & Dragonflies

... and also



Banded darter
(Sympetrum pedemontanum) (1)



Small red damselfly
(Ceriagrion tenellum) (1)



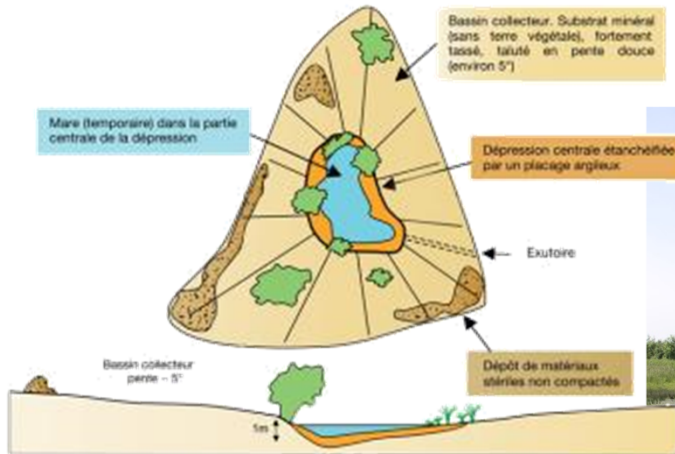
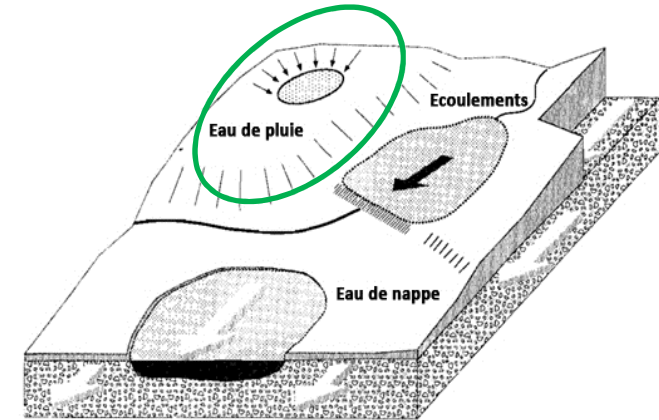
Common winter damselfly
(Sympecma fusca) (5)



***Charas spp.* Ponds** (10)

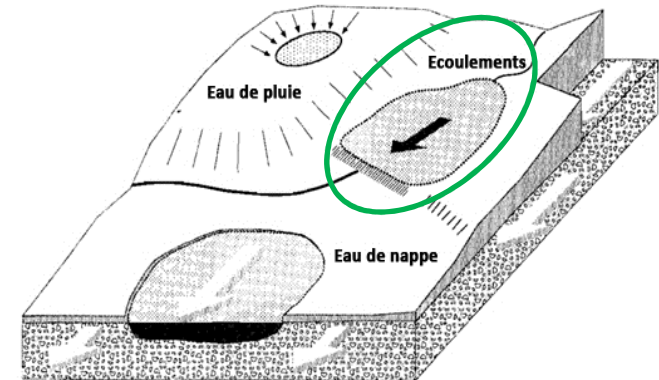
Water bodies : Proposed actions

Collection of rainwater



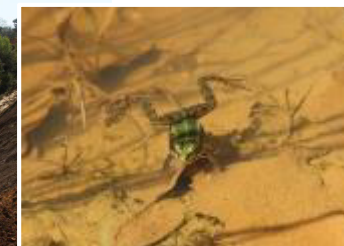
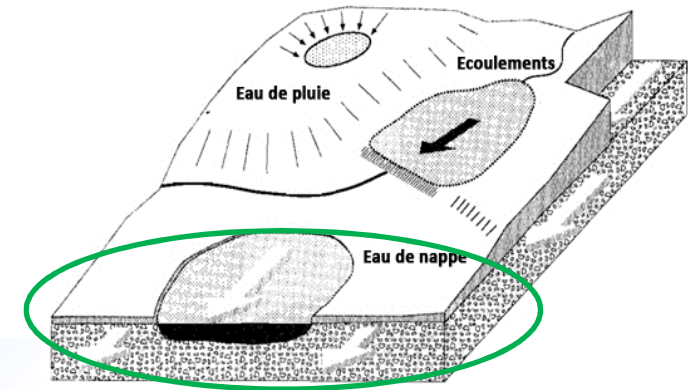
Water bodies : Proposed actions

Channeling of water runoffs



Water bodies : Proposed actions

Digging to reach groundwater level



Water bodies : Case studies



Development of habitats for temporary nature species

Natterjack toad – Dynamic network of ponds



Water bodies : Case studies

Reintroduction & development of habitats for permanent nature species

Great crested newt – Habitat creation & evaluation of introduction potentialities



Rocky structures : Reptiles



Rocky structures : Reptiles

Inventories

Reptiles

Presence of 6 out of 7 Walloon species

Common wall lizard (*Podarcis muralis*) (6)

Sand lizard (*Lacerta agilis*) (1)

Smooth snake (*Coronella austriaca*) (3)

Grass snake (*Natrix natrix*) (2)



Rocky structures : Reptiles

... and also



Calcareous screes



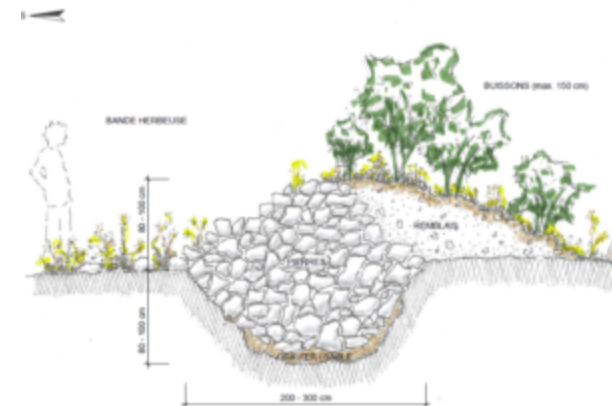
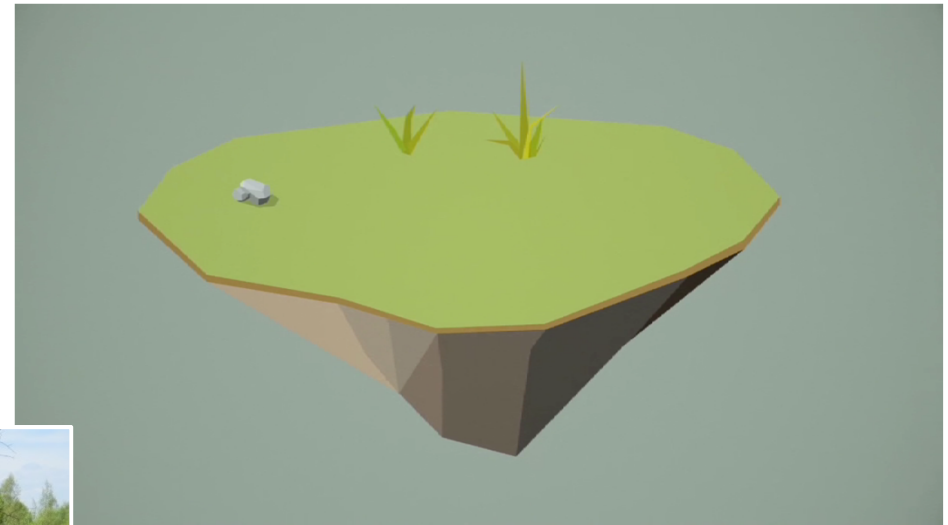
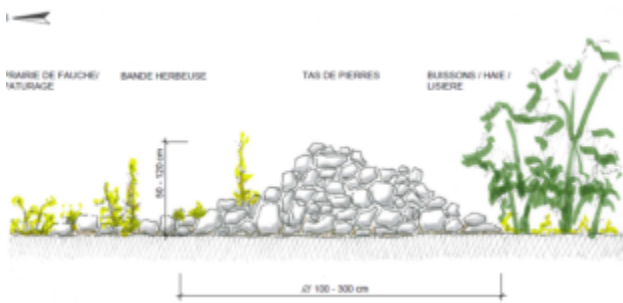
Viviparous lizard
(*Zootoca vivipara*) (6)



Slow worm
(*Anguis fragilis*) (11)

Rocky structures : Proposed actions

Setting up of shelters, linear screens and « Hibernacula »

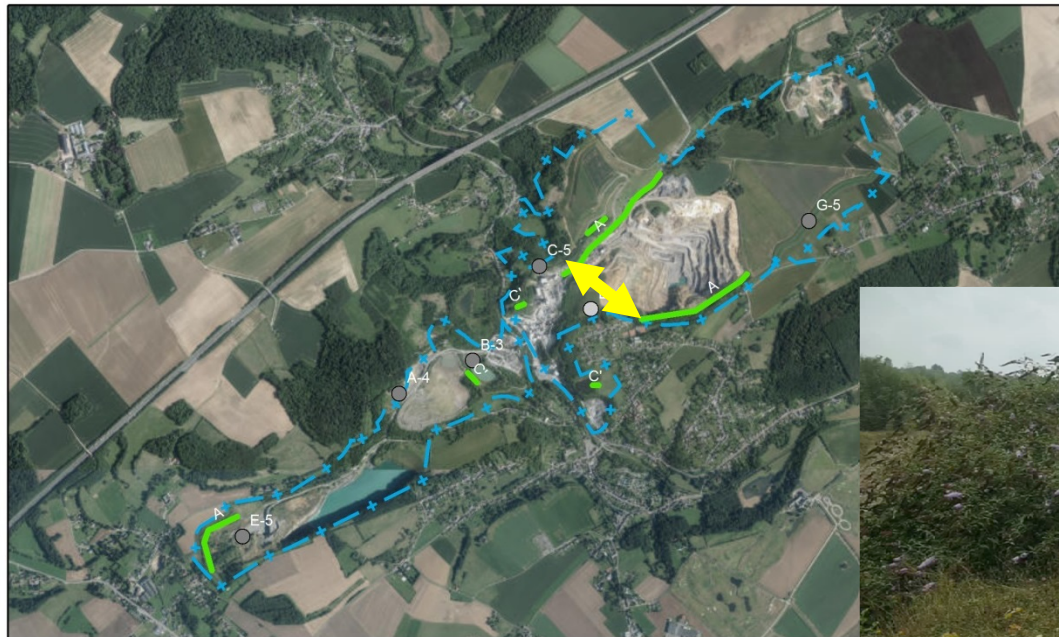


Rocky structures : Case studies

Scree and shelters development on a site hosting smooth snakes

Permanent nature species

→ On sites' borders



Pioneer grasslands : Plants & associated species



Pioneer grasslands : Plants & associated species

Inventories

Plants 630 species of the Walloon flora
82 patrimonial species (40 protected)
13 orchids species



Pioneer grasslands : Plants & associated species

... and also: a diversity of pionneer grasslands



Calcareous



Sandy



Siliceous



Pioneer grasslands : Proposed actions

Setting aside pioneer areas of high patrimonial value



Pioneer grasslands : Proposed actions



Creation and sowing of refuge zones



or Creation through transfer of seed banks



Pioneer grasslands : Case studies

Developing habitats for rare plant species



Distribuição em Portugal



Other structures : Birds



Other structures : Birds

Inventories

Birds

Presence of 101 nesting species – 158 species observed

Three target species

Sand martin (*Riparia riparia*) (4)

Peregrine falcon (*Falco peregrinus*) (2)

Eagle owl (*Bubo bubo*) (7)



Other structures : Birds

... and also



Common gull (*Larus canus*) (3)



Little ringed plover
(*Charadrius dubius*) (9)



Bluethroat (*Luscinia svecica*) (2)



Common tern (*Sterna hirundo*) (1)



Alpine accentor
(*Prunella collaris*) (1)



Black redstart
(*Phoenicurus ochruros*) (14)

Other structures : Proposed actions

Development of birds platforms

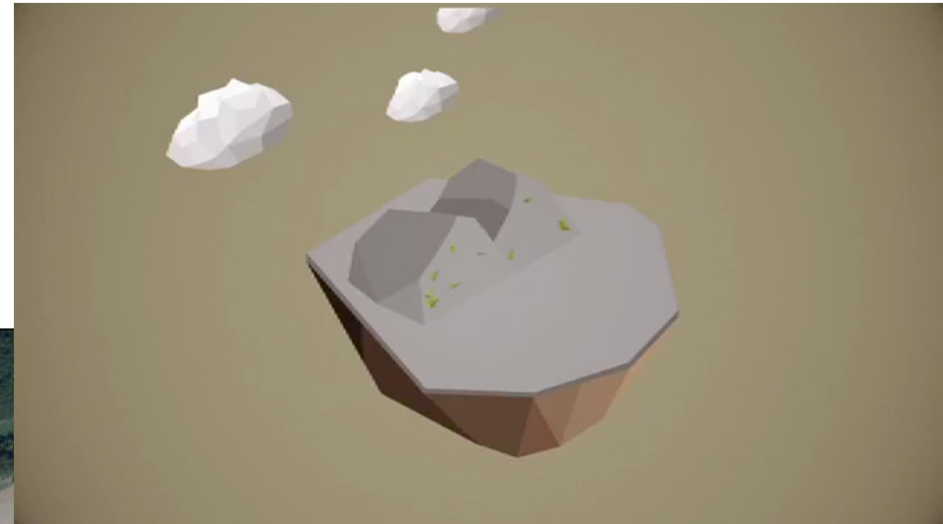


Creation of sandy cliffs



Other structures : Case studies

Developing host structures for target birds



Not individual but rather Integrated actions



Species evolving on diverse habitats



Little ringed plover

Pioneer ponds
Pioneer grasslands

Natterjack toad

Shelters
Pioneer grasslands
Pioneer ponds

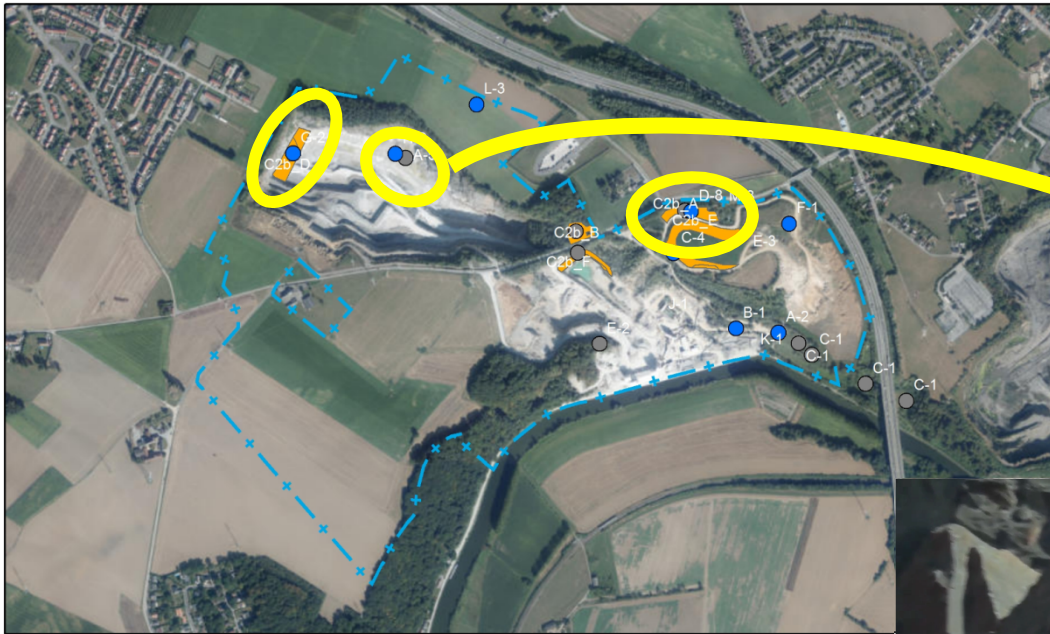


Not individual but Integrated actions



Group of actions targeting habitats or species

→ temporary refuge zones



Thank you for your attention - Muito Obrigado



CONTACT: MAXIME.SELECK@ULIEGE.BE
WWW.LIFEINQUARRIES.EU