

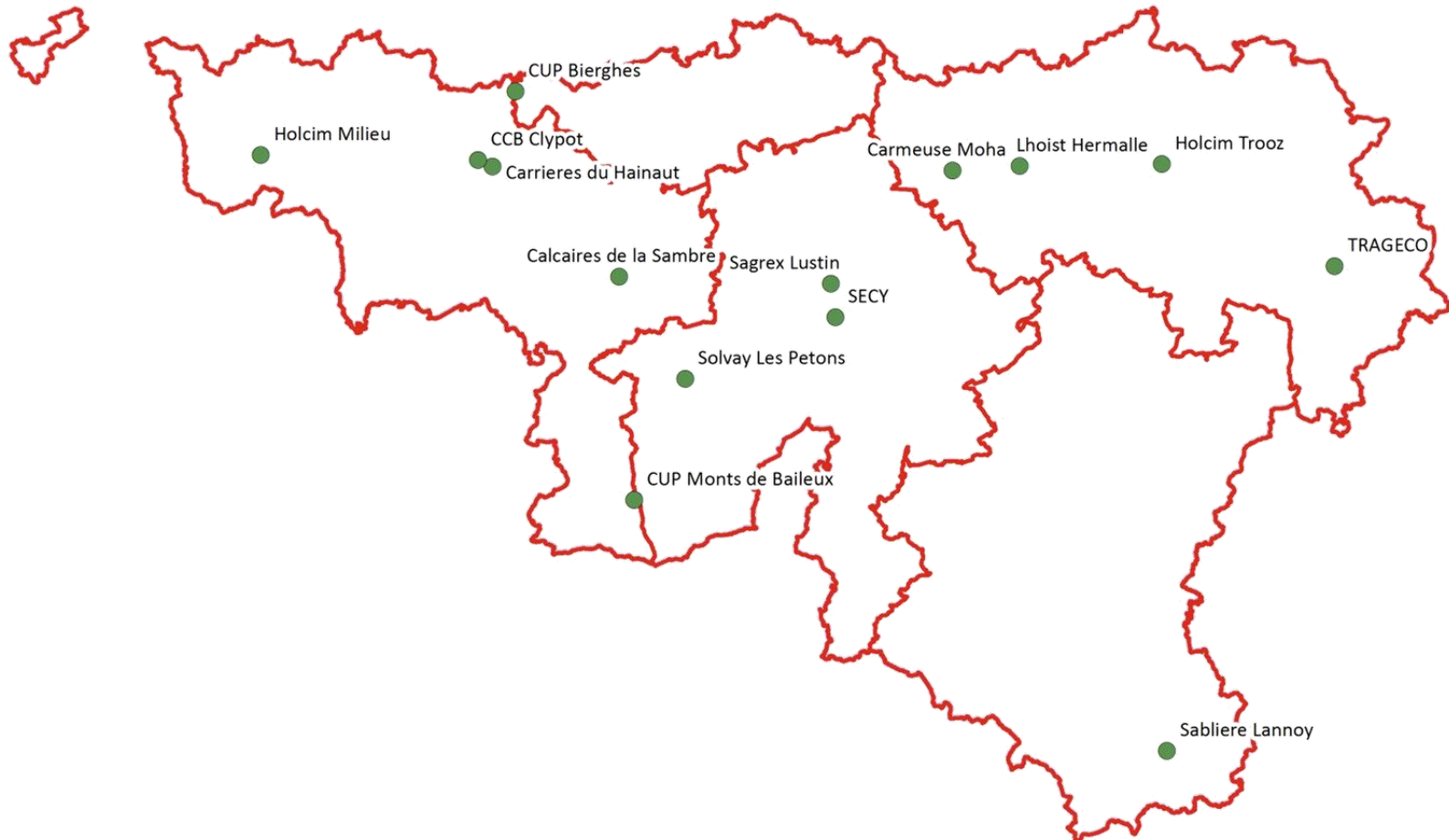


## LIFE IN QUARRIES IN ACTION – PHASE I

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# Objectives of the Life In Quarries

## Biological inventories in 14 Phase I Quarries - objectives



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### **Identify target species & habitats & define biological context**

Five target biological groups

- **Vascular plants**
- **Birds**
- **Reptiles**
- **Amphibians**
- **Dragonflies**

# Objectives of the Life In Quarries

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Biological inventories in 14 Phase I Quarries - objectives

**Identify target species & habitats & define biological context**

**Develop management plans along with quarry manager/env. resp.**

**→ Implementation of actions through 2019**

Temporary → creation during & after the project

Permanent → during the project – conserved afterwards

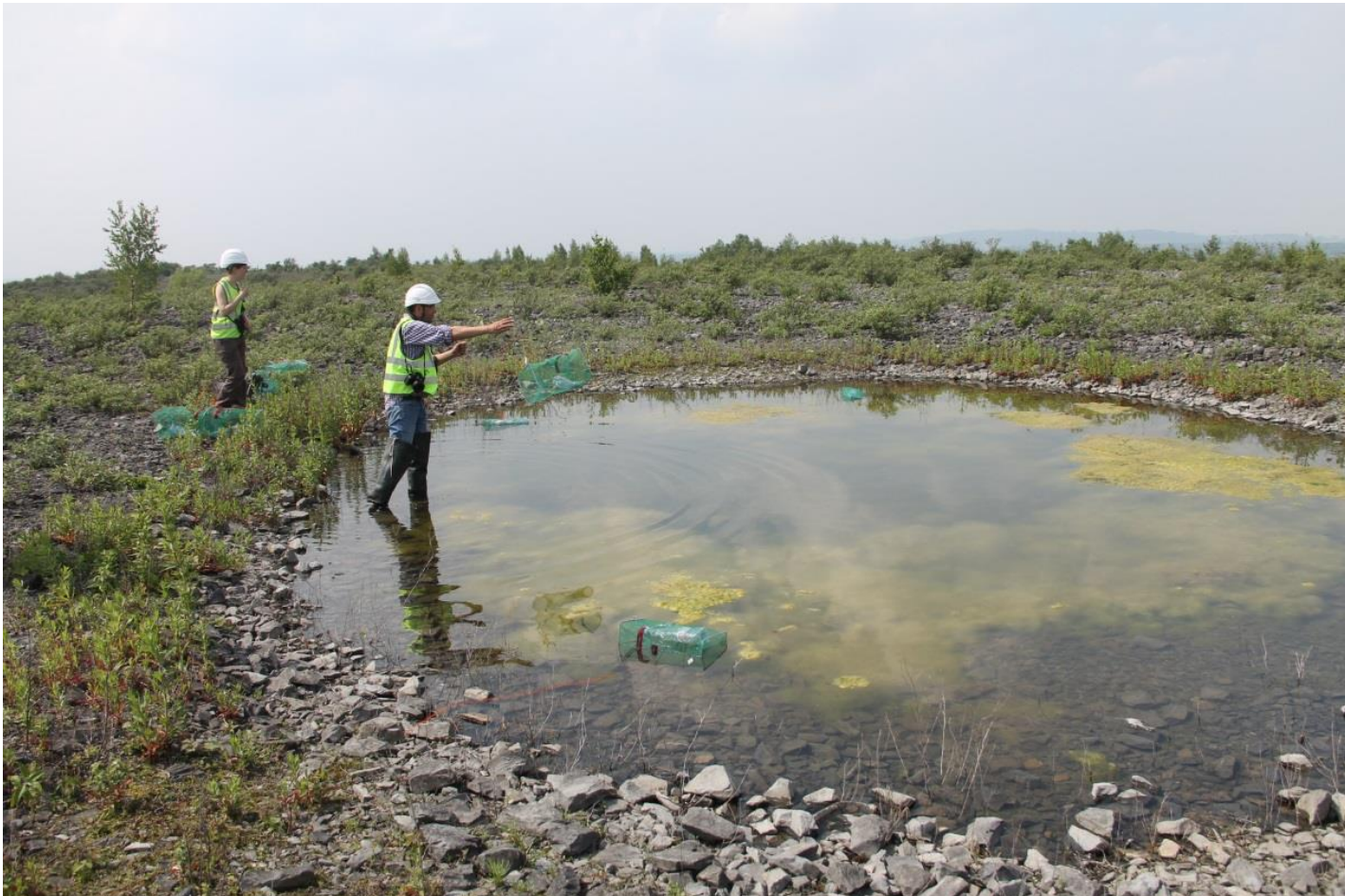
# Presentation Structure

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



# 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)



**Common frog**  
*(Rana temporaria)* (9)



**Smooth newt**  
*(Lissotriton vulgaris)* (10)



**(Bufo bufo). Ponds** (10)



## 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)

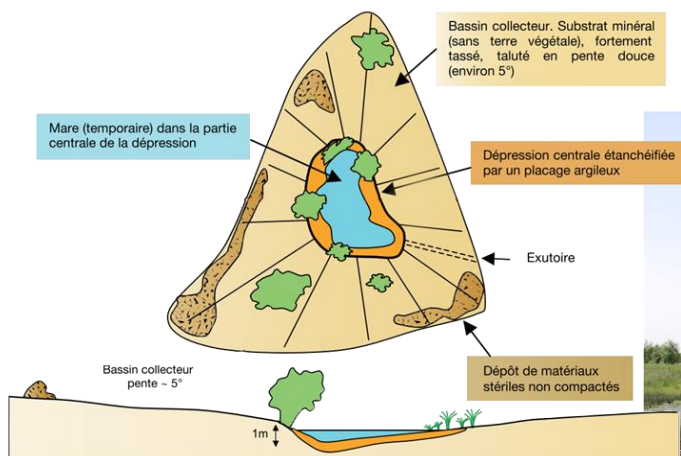
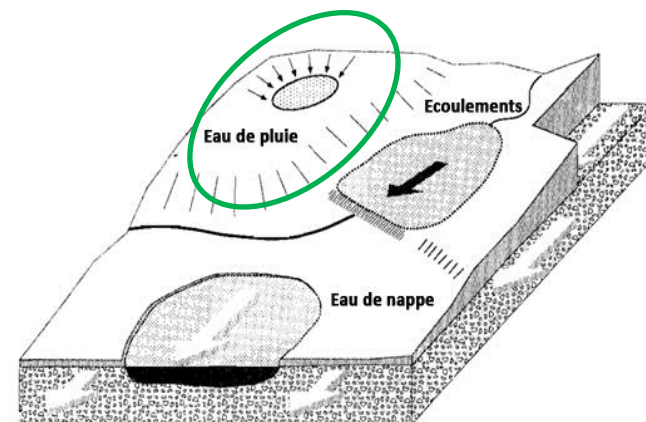


***Charas* spp.** Ponds (10)

# Water bodies : Amphibians & Dragonflies

## Related proposed actions

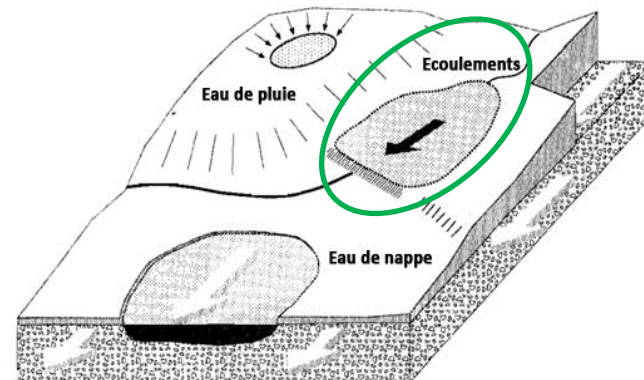
### Collection of rainwater





# Water bodies : Amphibians & Dragonflies

## Related proposed actions Channeling of water runoffs

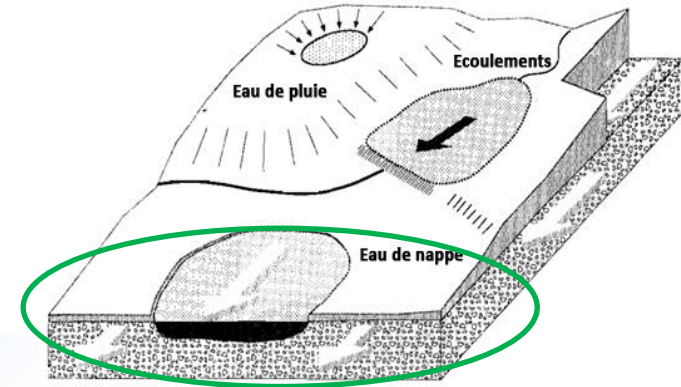




# Et donc ... où et comment les créer en carrières ?

## Related proposed actions

### Digging to reach groundwater level

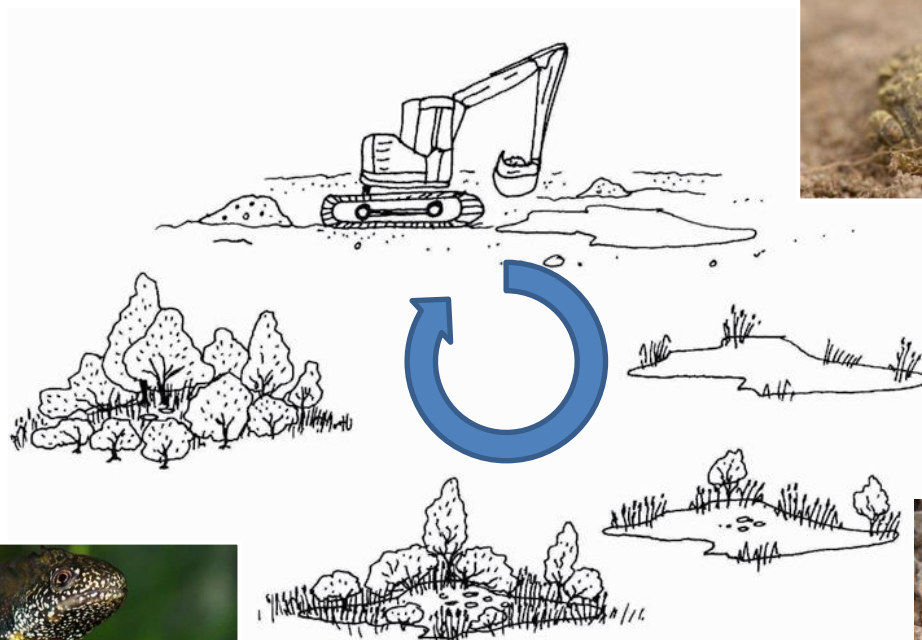


# Water bodies : Amphibians & Dragonflies

## Related proposed actions

### Importance of the biology of species

### Temporary habitats



© Hunger, Schiel, Rademacher 2015



### Permanent habitats



# Water bodies : Amphibians & Dragonflies

## Development of habitats for temporary nature species

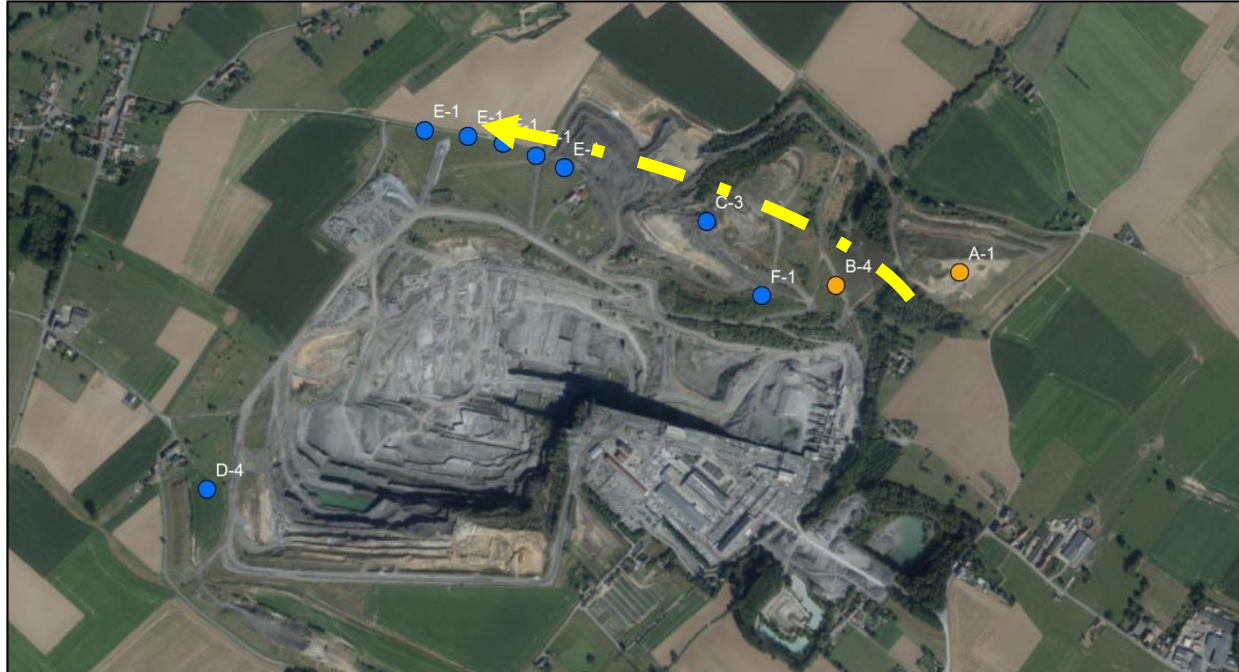
### Natterjack toad – ponds network



# Water bodies : Amphibians & Dragonflies

Study of the reintroduction potential for 3 amphibians :

Great crested newt – Habitat creation & evaluation of introduction potentialities

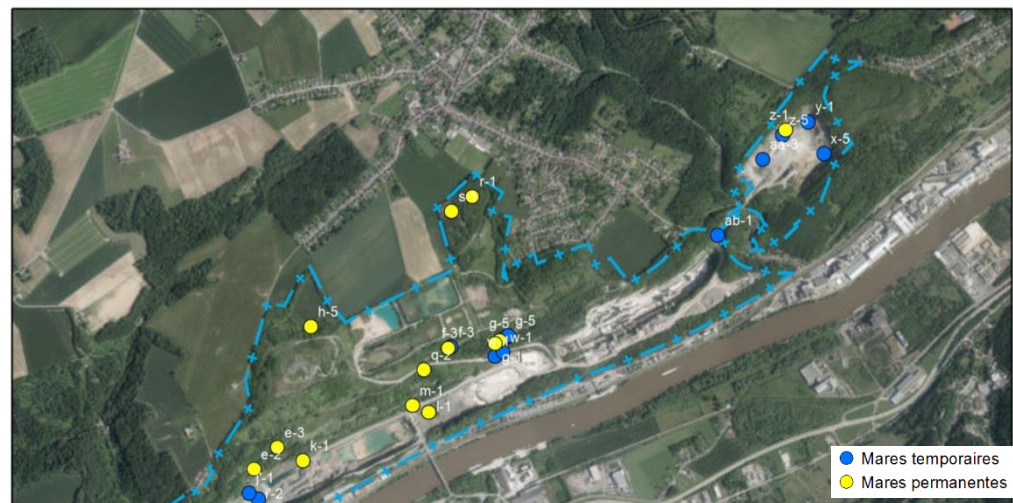
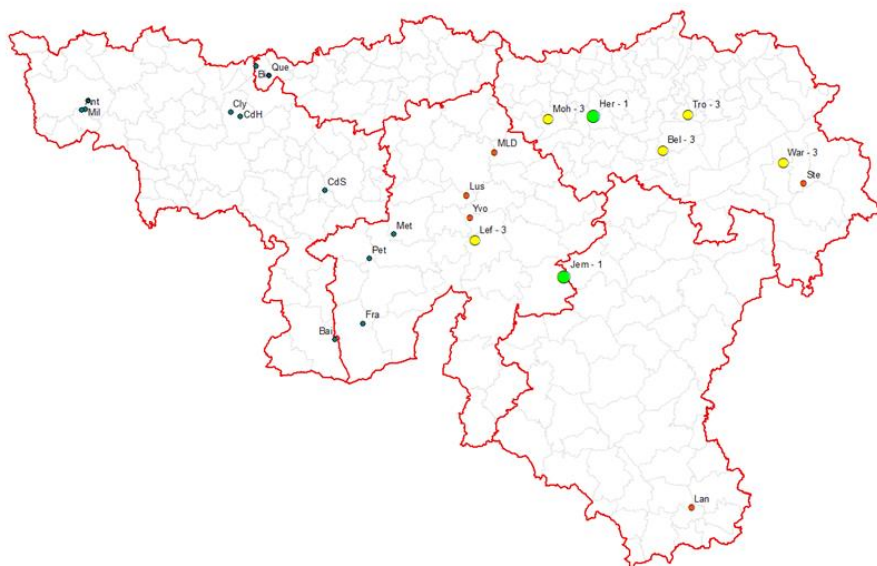




# Water bodies : Amphibians & Dragonflies

## Study of the reintroduction potential of 3 amphibians

### Yellow-bellied toad - Habitat creation & evaluation of introduction potentialities



# Water bodies : Amphibians & Dragonflies

Life In Quarries Action	Phase I	
	Objective	Potential
Temporary ponds	60	308
Reintroduction Natterjack toad	2	3
Reintroduction Great crested newt	2	6
Introduction Yellow-bellied toad	1	1
Permanent ponds	12	110

# Rocky structures : Reptiles & Pioneer plants





# Rocky structures : Reptiles & Pioneer plants

## 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 & Pioneer plants

... and also



**Calcareous screes**



**Viviparous lizard**  
**(*Zootoca vivipara*) (6)**

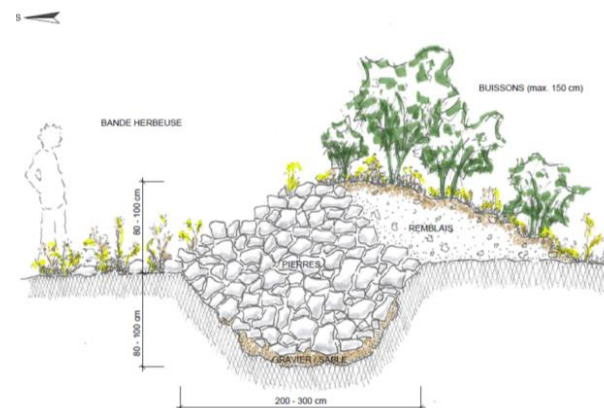
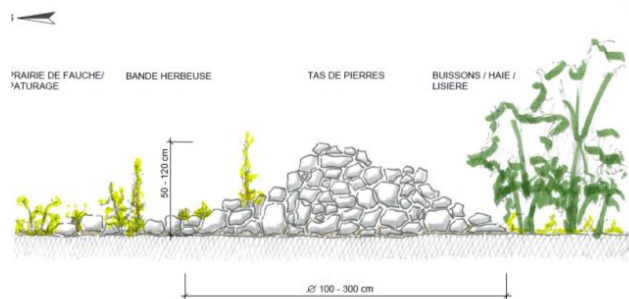


**Slow worm**  
**(*Anguis fragilis*) (11)**

# Rocky structures : Reptiles & Pioneer plants

## Related proposed actions

### Setting up of shelters, linear screees and « Hibernacula »



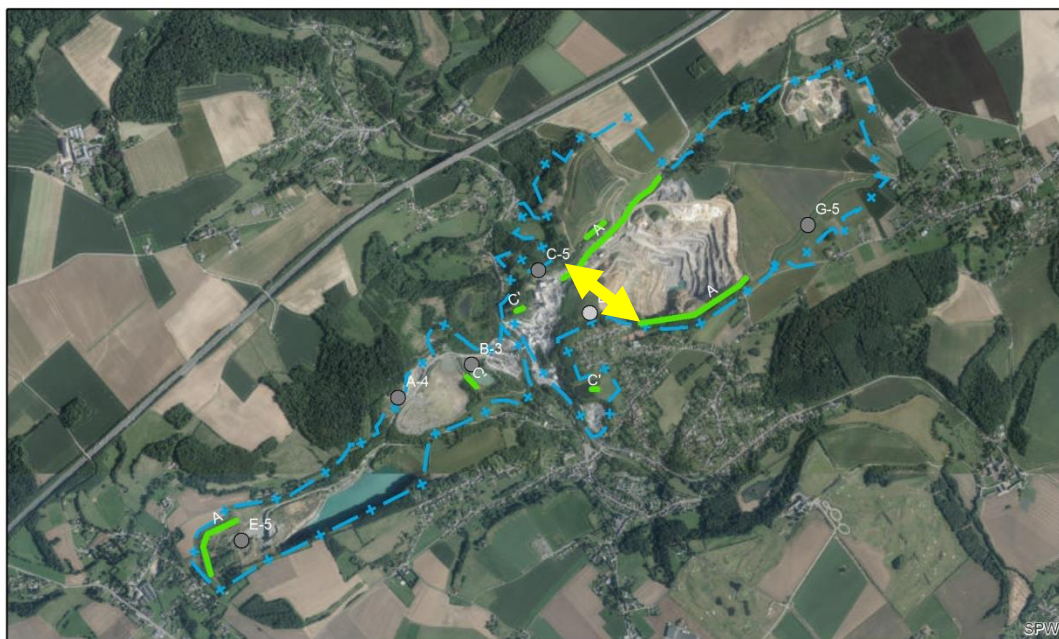


# Rocky structures : Reptiles & Pioneer plants

Scree and shelters development on a site hosting smooth snakes

Permanent nature species

→ On sites' borders



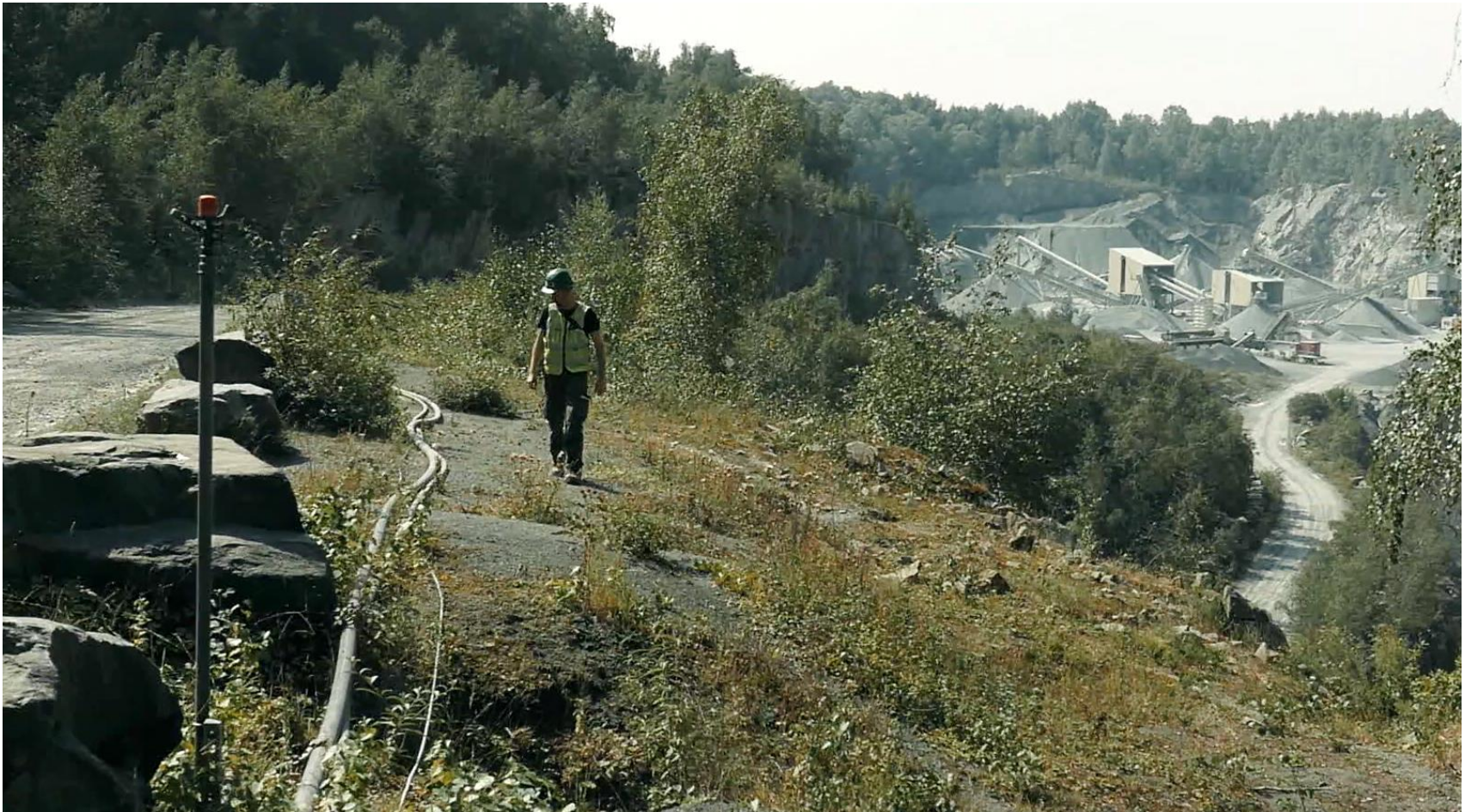
# Rocky structures : Reptiles & Pioneer plants



Life In Quarries Action	Phase I	
	Objective	Potential
Shelters	48	289
Linear screes	4000m	4375m



# 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 : Pioneer plants & associated species

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... and also: a diversity of pioneer grasslands



Calcareous



Siliceous



Sandy





# Pioneer grasslands : Plants & associated species

... and also



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



**Blue-winged Grasshopper**  
*(Oedipoda caerulescens)* (6)

# Pioneer grasslands : Plants & associated species

## Related proposed actions

Setting aside pioneer areas of high patrimonial value

Re-opening vegetation in semi-permanent areas





# Pioneer grasslands : Plants & associated species

## Related proposed actions

### Creation and sowing of refuge zones



### or Creation through transfer of seed banks





## Related proposed actions

**Introduction of lacking patrimonial species adapted to pioneer conditions (annual – bisannual)**



# Pioneer grasslands : Plants & associated species

## Developing habitats for rare plant species



# Pioneer grasslands : Plants & associated species



Life In Quarries Action	Phase I	
	Objective	Potential
Pioneer grasslands	6 ha	28.15 ha



## 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)**



**Bluethroat (*Luscinia svecica*) (2)**



**Common tern (*Sterna hirundo*) (1)**



**Black redstart  
(*Phoenicurus ochruros*) (14)**



## Other structures : Birds

### Related proposed actions



Development of birds platforms

### Creation of sandy cliffs



## Other structures : Birds

Developing host structures for target birds



## Other structures : Birds

Life In Quarries Action	Phase I	
	Objective	Potential
Sandy cliffs	5	12 (6+6)
Shallow banks	200 m	65m
Platforms	8	14 (6+5+3)



## Not individual but Integrated actions

### Species evolving on diverse habitats



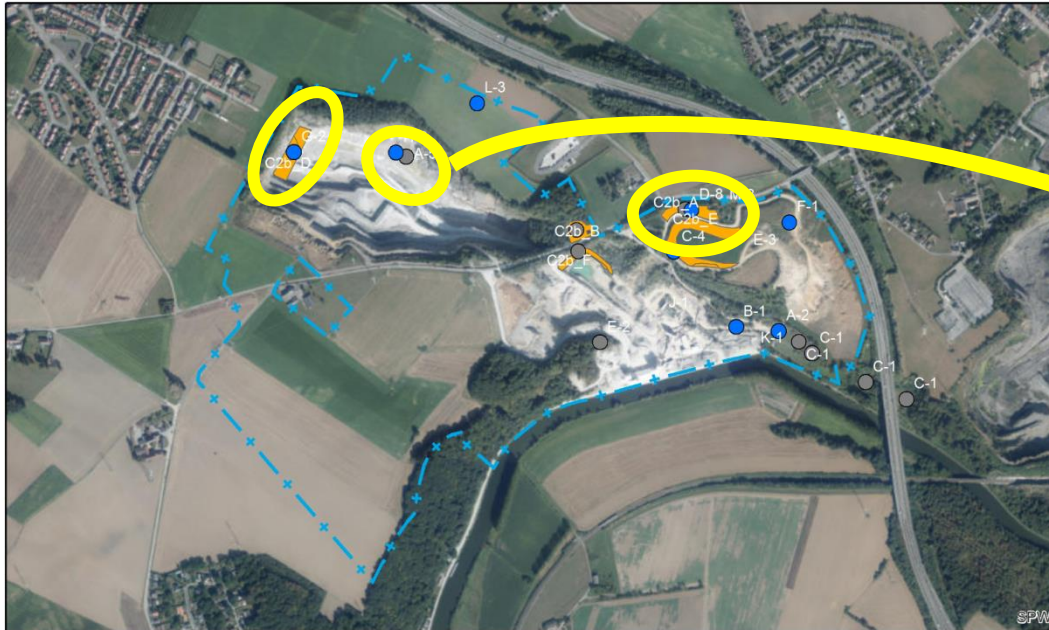
Little ringed plover  
Pioneer ponds \* Pioneer grasslands

Natterjack toad  
Shelters \* Pioneer grasslands \* Pioneer ponds

# Not individual but Integrated actions

Group of actions targeting habitats or species

→ temporary refuge zones





# Not individual but Integrated actions



## Plan d'actions : Carrière des Monts de Baileux - CUP

### Nature temporaire (code action - Nb)

- Mares temporaires
- Mares temporaires (à confirmer)
- Abris
- Abris (à confirmer)
- Introduction Calamite (à confirmer)

### Nature permanente (code action - Nb)

- Mares permanentes
- Gîtes à Chauves souris
- Pierriers linéaires

### Mise en défens temporaires

- Restauration et Convention de fauche
- Restauration et autre type de Convention

## Inventaires sites Phase I : Actions du plan de Gestion

Site : Carrière des Monts de Baileux - CUP

Date : 13/11/2017

Remarques : Document à lire avec le plan d'actions

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FEDIEUX

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# Thank you for your attention



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