

LIFE Connexions

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Priority actions for grasslands, forests and associated species connexions in Wallonia (BE) and Great East (FR)

Interregional working group « Nature connectivity in Belgium » - 06 November 2024

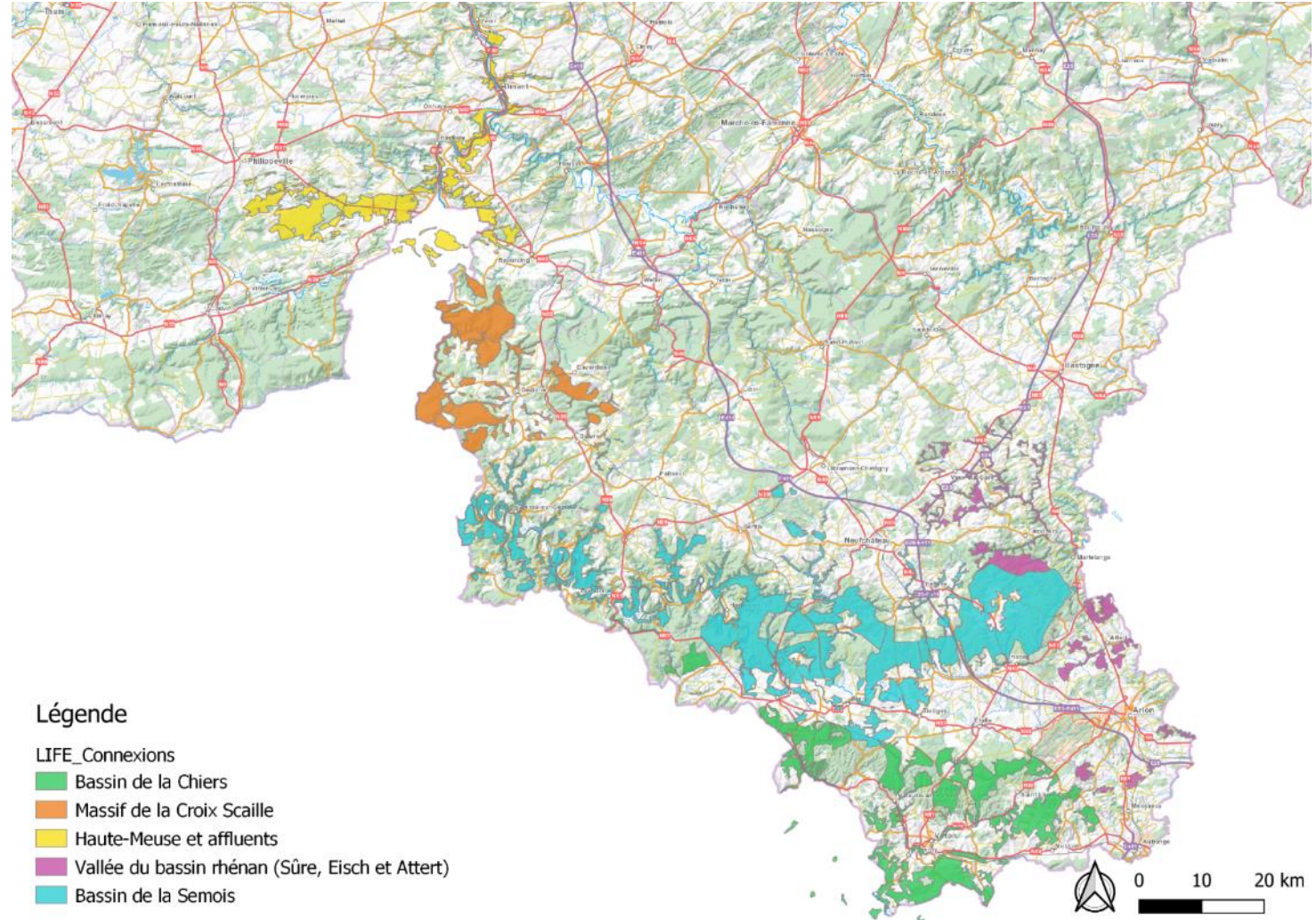
The LIFE Connexions project



- 2021-2027
- 500 ha of natural habitats to restore
- Wallonia region (Belgium) and Great East Region (France)
- 6 partners



- 41 Natura 2000 sites & 5 river basins



The habitats... And species targeted



Calcareous grassland (6210)



Xeric sand calcareous grassland (6120)



Nardus grassland (6230)



Lowland hay meadows (6510)

The habitats... And species targeted



Molinia meadows on calcareous (6410)



Alluvial forest (91E0)



Pearl Mussel
(*Margaritifera margaritifera*)



Hydrophilous tall herb fringe communities (6430)



Bog woodland (91D0)



Violet Copper (*Lycaena helle*)

Spatial planning



Where to start ?

Where are priority areas ? For which species ?

→ Spatial planning

Define priority areas for :

- Habitats
- Violet Copper (*Lycaena helle*)
- Pearl Mussel (*Margaritifera margaritifera*)



Classes de recouvrement						
5	4	3	2	1	+	r
R > 75%	50 % < R < 75 %	25 % < R < 50 %	5 % < R < 25 %	1 % < R < 5 %	R < 1 % peu abondant	rare (qlq pieds)
Projet LIFE Connexions						
Action préparatoire A3 - Caractérisation de l'habitat 6510						
Recouvrement des espèces caractéristiques dans les limites des Unités d'Habitat disponibles						
Site Natura 2000 : BE		Observateur :			Date :	
Code terrain de l'UH		...	...	...	...	...
N° de subdivision (si nécessaire)		...	...	...	...	...
Habitat(s) EUR15 en place		...	...	...	...	...
Espèces caractéristiques		Coefficient de recouvrement par UH				
Anthriscus sylvestris						
Arrhenatherum elatius						
Avenula pubescens						
Centaurea jacea						
Crepis biennis						
Daucus carota						

Spatial planning for Violet Copper



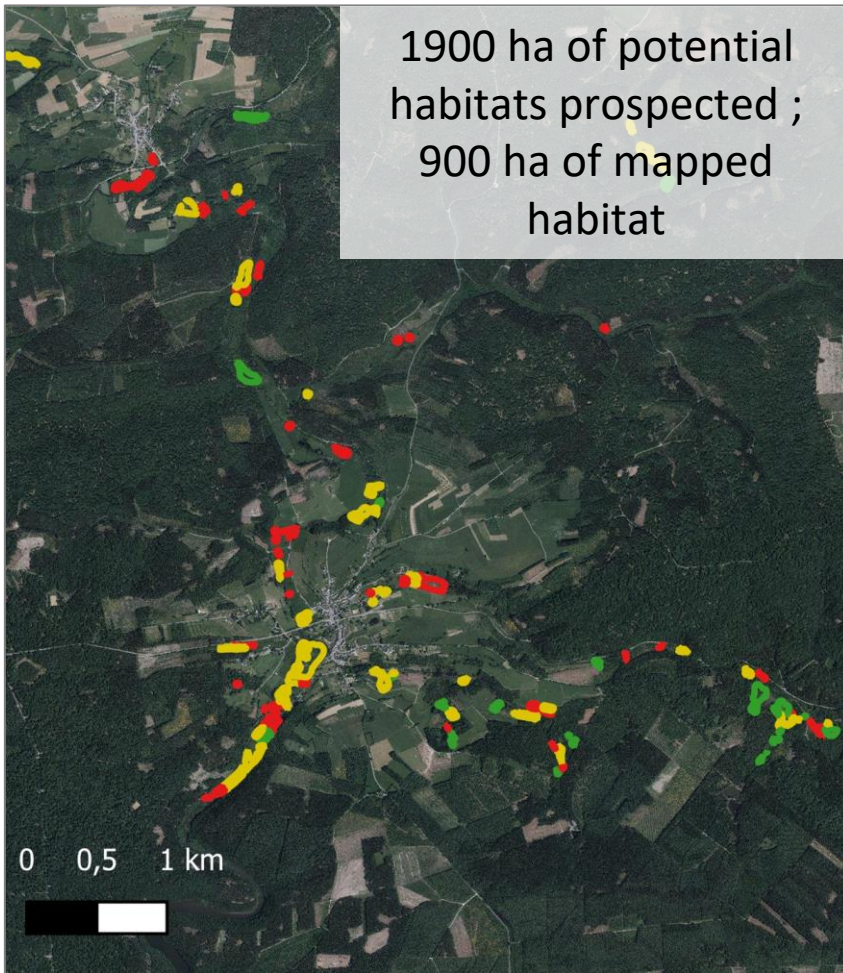
Violet Copper (*Lycaena helle*) :

- Occurs in wet meadows in valley bottoms in Ardenne (and Lorraine).
- Needs *Bistorta officinalis* (i.e. larval host plant) and vertical structures.
- Threats : habitat destruction and fragmentation, climate change, beavers.

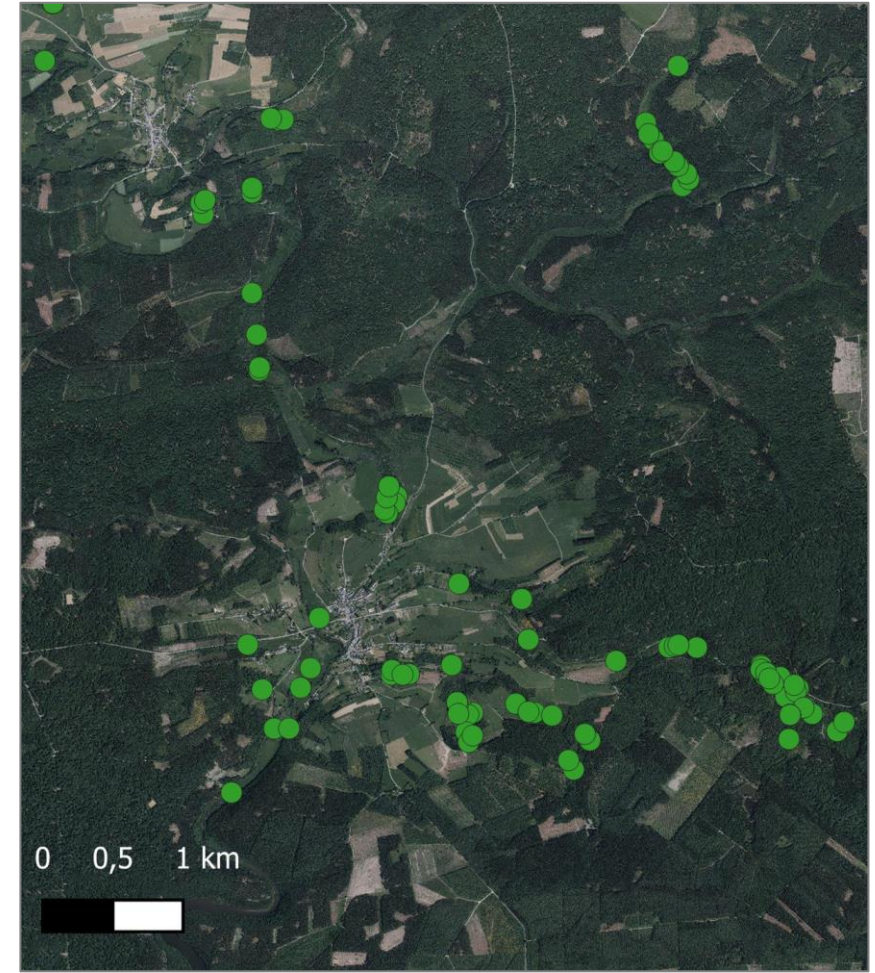
Spatial planning for Violet Copper

Inventories 2021-2023 - Results

Map of habitat patches and characterization of the conservation status (A,B,C)



Recent observation data of *Lycaena helle* (2019-2023)



Spatial planning for Violet Copper

- A tool to quantify connectivity : the Graphab software

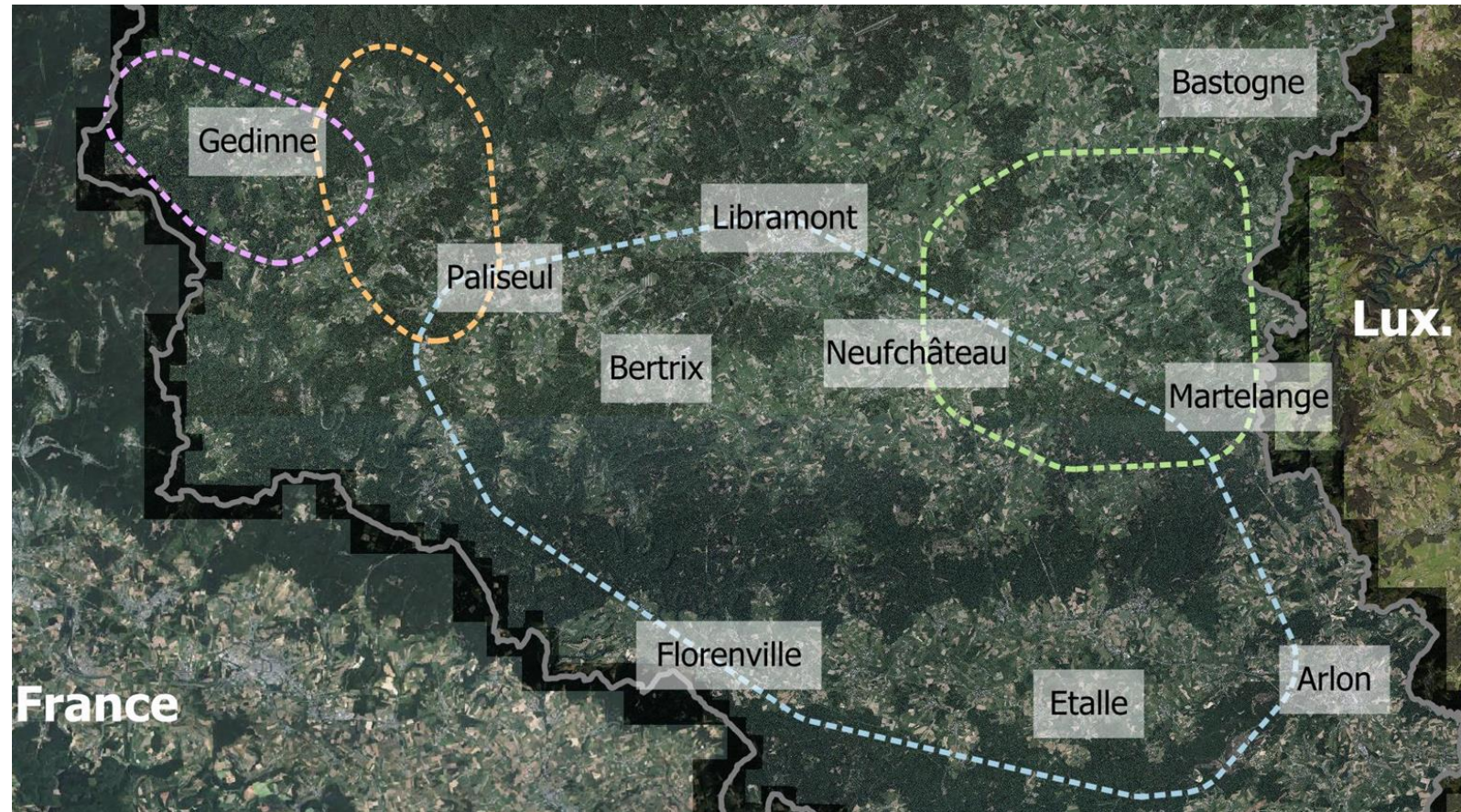
→ Open-source software, works with QGIS.

→ Integrates species-specific characteristics of the studied species : maximum dispersal distance = 1,5 km

→ Analysis divided in 4 sub-watershed.

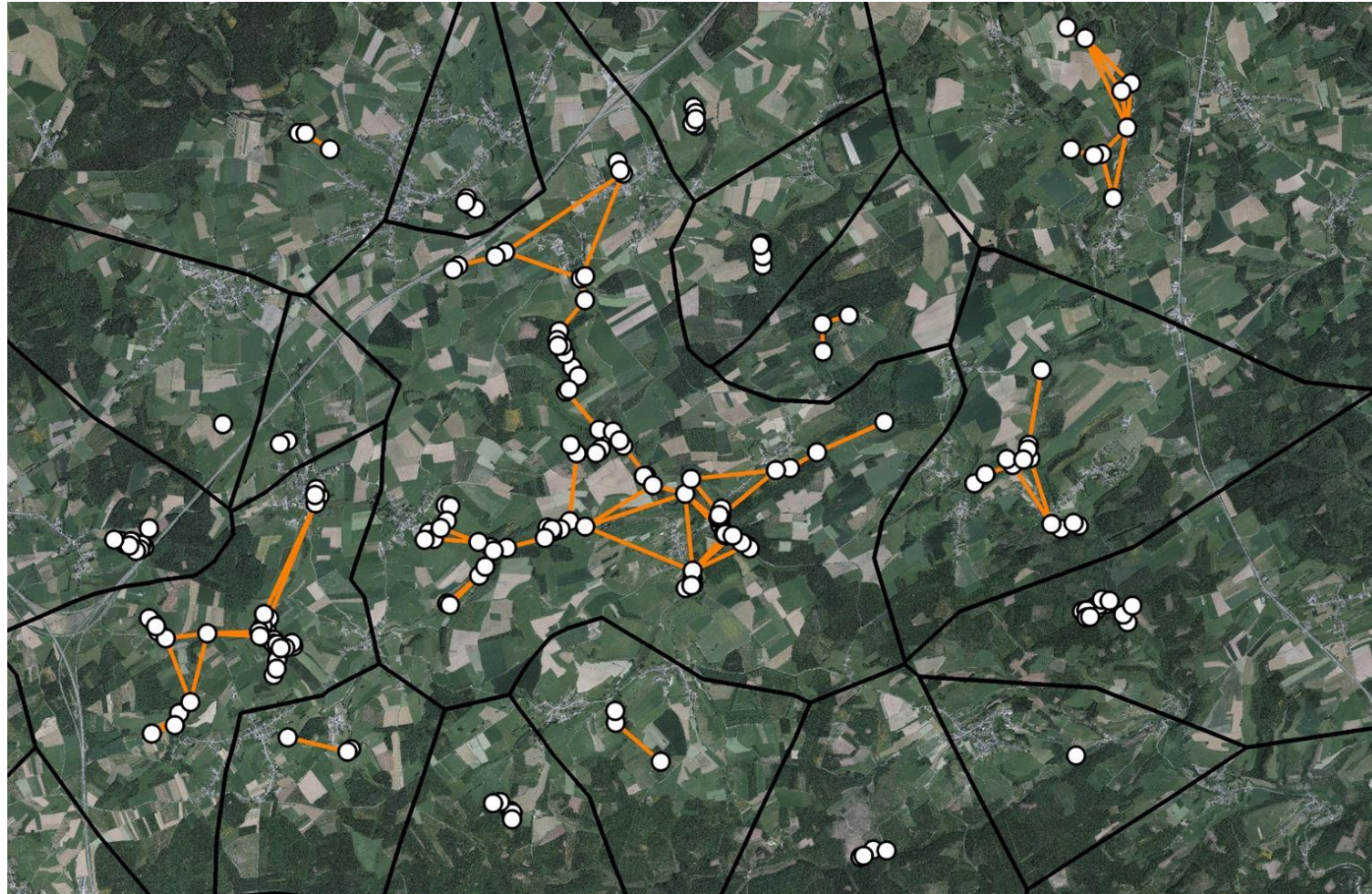
→ Based on (least) cost distance approach

Land use type	Cost
Patches of habitat	1
Species-rich meadows and hydrographic network	10
Young forest plantations	50
Water surfaces, bare soil, intensive agricultural areas, clearcuts	100
Matured forests	250
Road network and urban areas	1 000
Highways	10 000



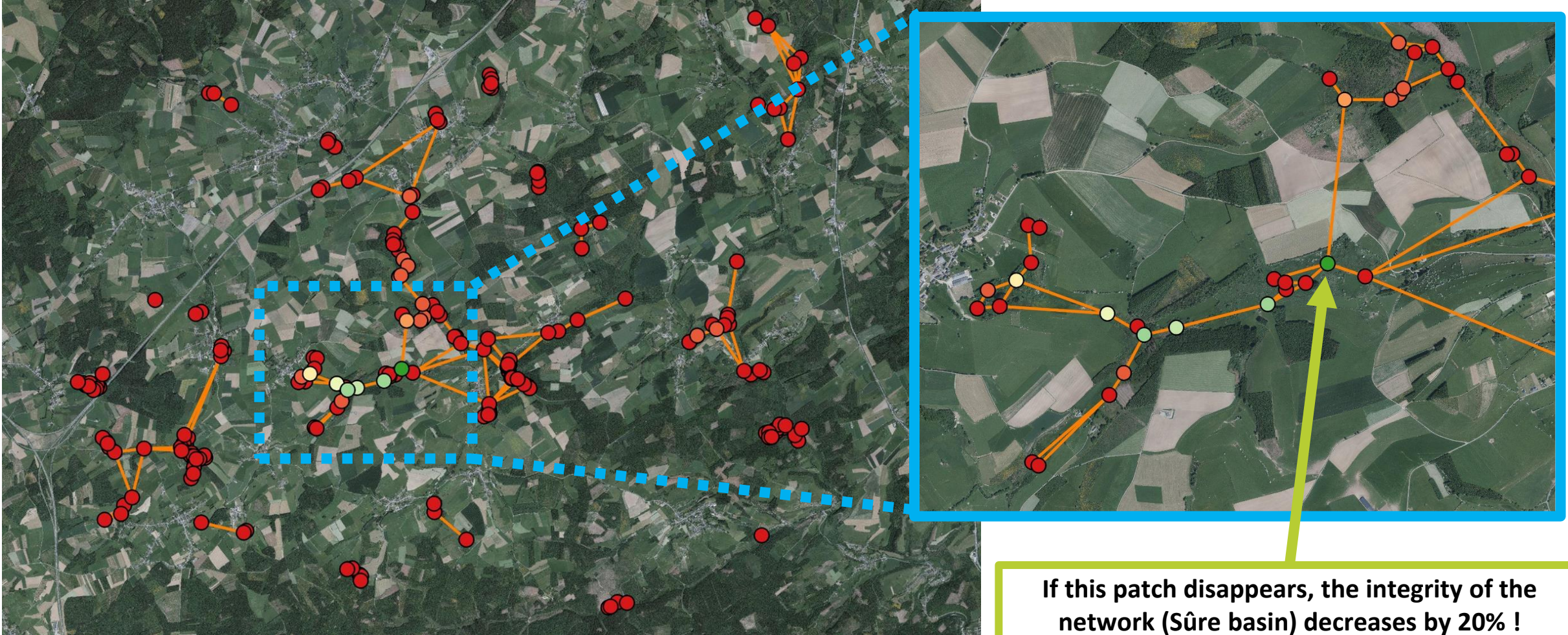
Spatial planning for Violet Copper

- Results of the analysis – Identification of metapopulations



Spatial planning for Violet Copper

- Identify patches that contribute most to the resilience of the network (ex : Sûre basin)



Spatial planning for Violet Copper

- Identify gains of connectivity linked to the restauration in each grid cell (ex : Sûre basin)

- Identify favorable areas for the habitat based on soil map.
- Remove ancient forests, urban areas, ...
- Apply a 100x100 m grid.
- Keep grid cells with min. 0,3 ha as potential restoration sites.



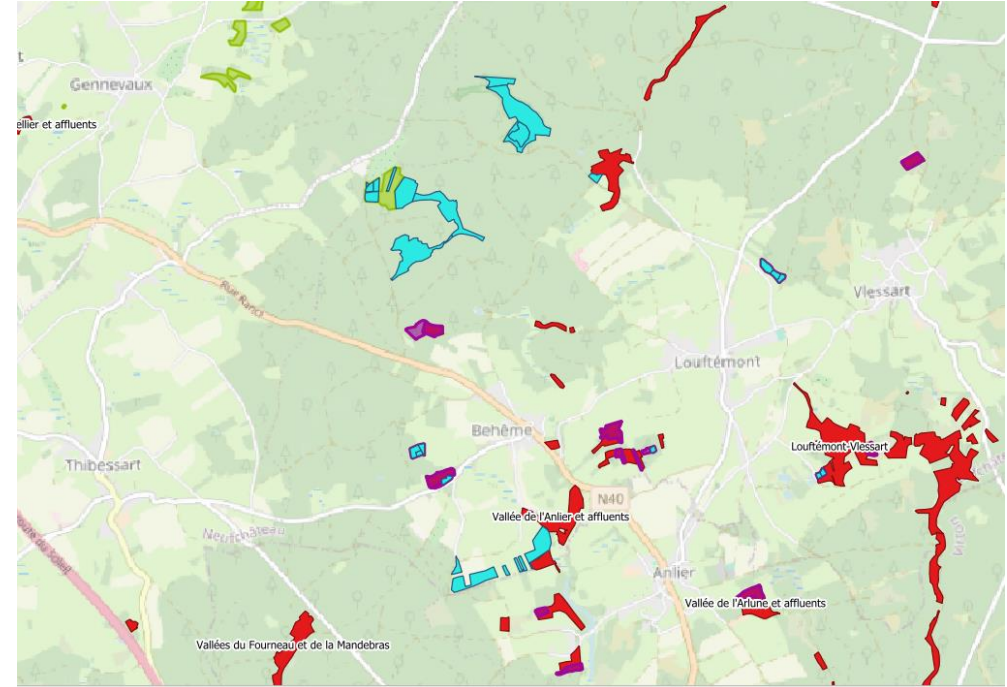
Restoring 0,88 ha of habitat for the Violet Cooper in this grid cell results in connectivity gains of about 6% at the level of the Sûre basin

Habitat restoration

- Restoration of 8 habitats
- Actions for the defragmentation of Violet Copper populations
- Connectivity analysis for habitats : distance of dispersion is limited for most typical plant species for those habitats

→ Acquisition of 250 ha (purchase or agreement) : focus on core zones

→ Reintroduction / reinforcement of characteristics plant species



Reintroduction/ reinforcement of plant species

- Reintroduction of 14 endangered species by Botanic Garden of Meise for 6210
- Reinforcement of the plant association for grasslands and meadows
 - Hay spreading
 - Harvesting and sowing seeds
 - Ex-situ culture of 20 grassland species
- Guidelines to respect !



Example of recent restoration

RNA Boiron (Gedinne)

Septembre 2023

Octobre 2023

Juillet 2024



Results in 2027... Thank you ! Questions ?

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