

# Monitoring networks for policy-relevant amphibian species in Flanders (Belgium)

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Flanders  
State of the Art

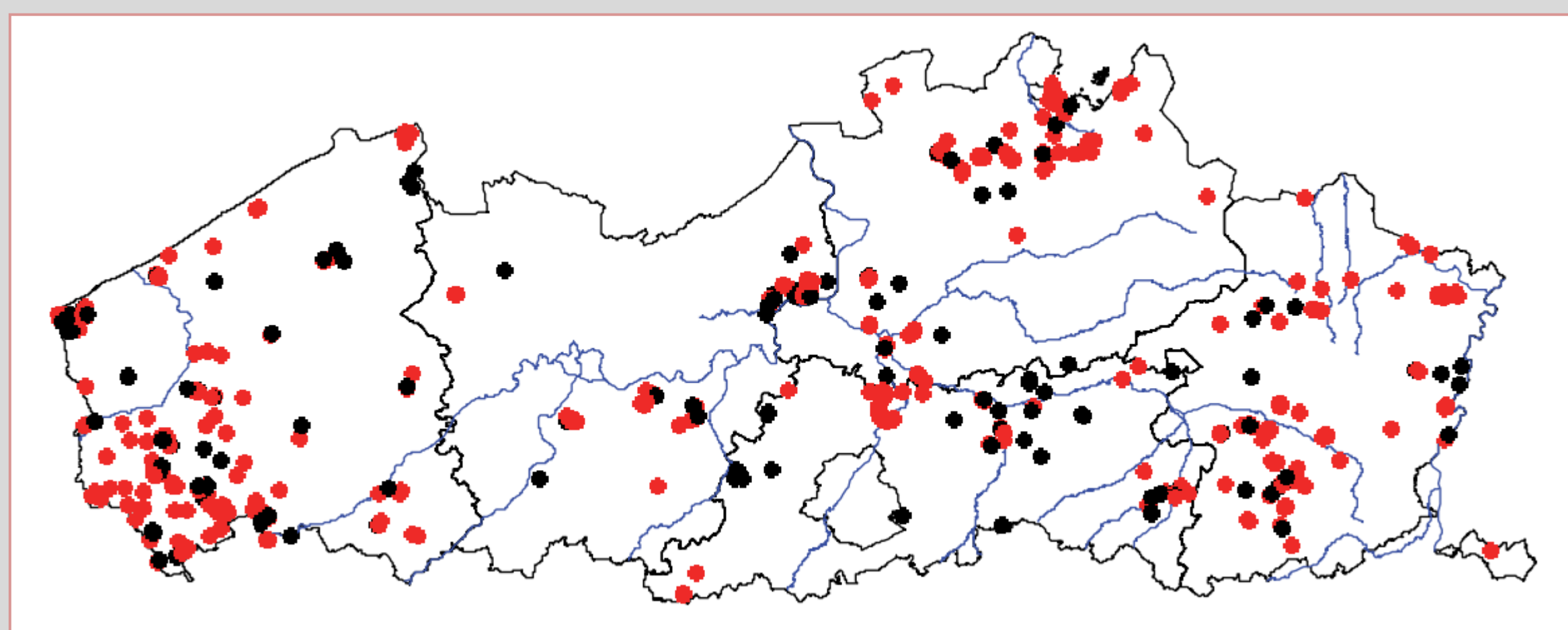
## Outline

- + long-term trend monitoring for policy-relevant amphibian species in Flanders
- + Habitats Directive annex 2 and 4 species: *Triturus cristatus*, *Alytes obstetricans*, *Pelobates fuscus*, *Epidalea calamita*, *Hyla arborea*, *Rana arvalis* and *Pelophylax lessonae*
- + Added because of regional conservation importance: *Salamandra salamandra*

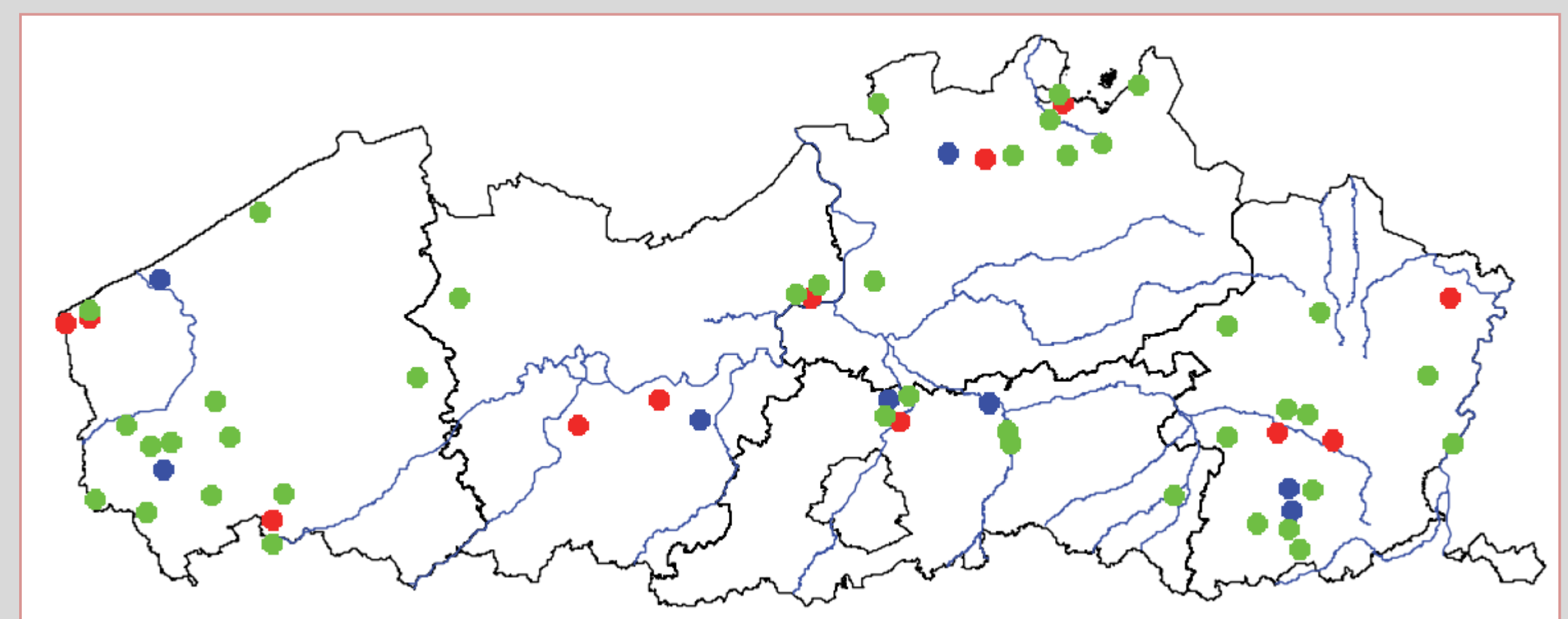
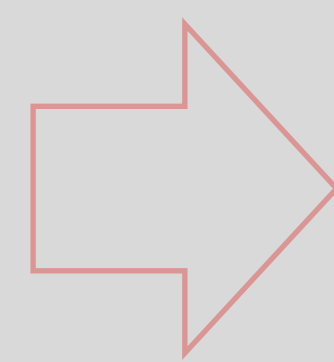


## Network design

- + rarer species - *Salamandra salamandra* and *Pelobates fuscus*: monitoring of all populations
- + more widespread species : Generalised Random Tesselation Stratified sampling (GRTS, Stevens & Olsen, 2004) to obtain a spatially balanced design across the Flemish region

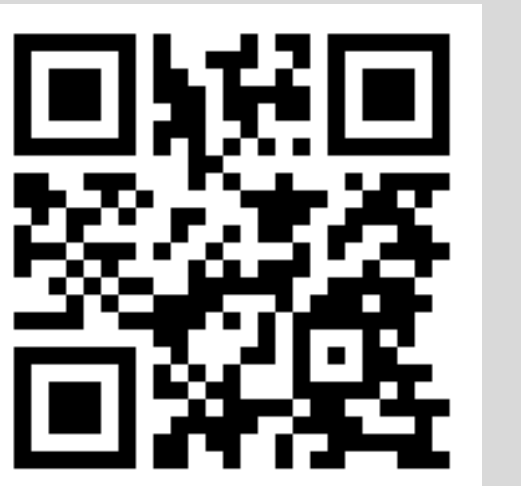


Sampling frame preparation, with retained data in red



Sample of 60 spatially dispersed locations divided into three pond cluster sizes (cluster size - red: large; blue: intermediate; green: small)

- + sampling strategy and basic field methodology described in protocol documents (De Bruyn *et al.*, 2015a, b, c)
- + field sampling coordinated by NGO Natuurpunt
- + volunteer networks were developed to conduct fieldwork
- + data entry and attribution of sampling sites to volunteers through [www.meetnetten.be](http://www.meetnetten.be)



## Application

- + 2016: monitoring networks started for *Salamandra salamandra* (4405 observed animals over 73 count events in 36 populations) and *Hyla arborea* (1210 calling males over 70 count events, 1647 larvae over 38 netting events)
- + 2017: *Triturus cristatus* and *Pelobates fuscus*
- + subsequent years: remaining species networks to start

## References

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