SPRING results

David Roy (on behalf of the SPRING regional leads)

UK Centre for
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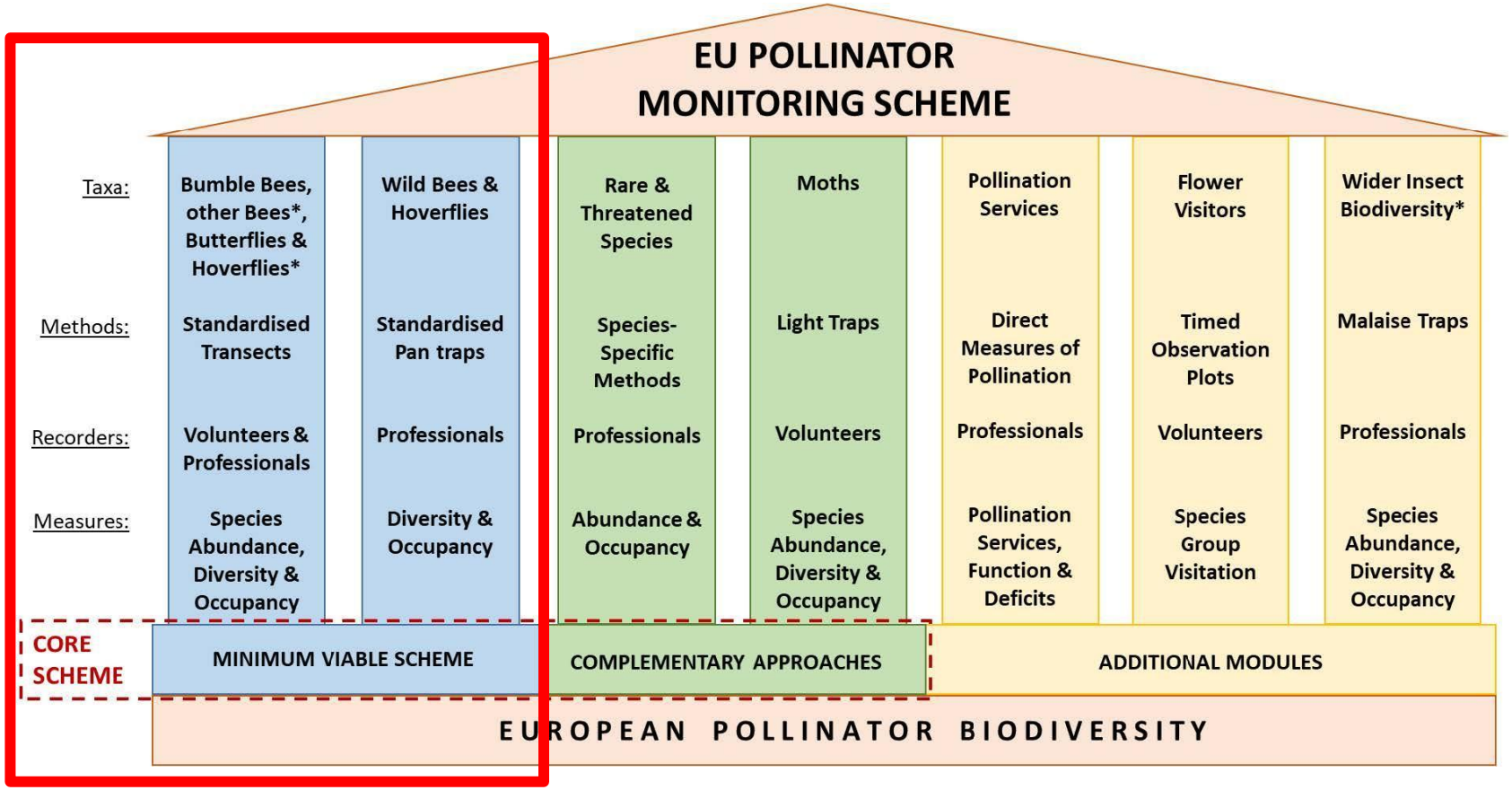
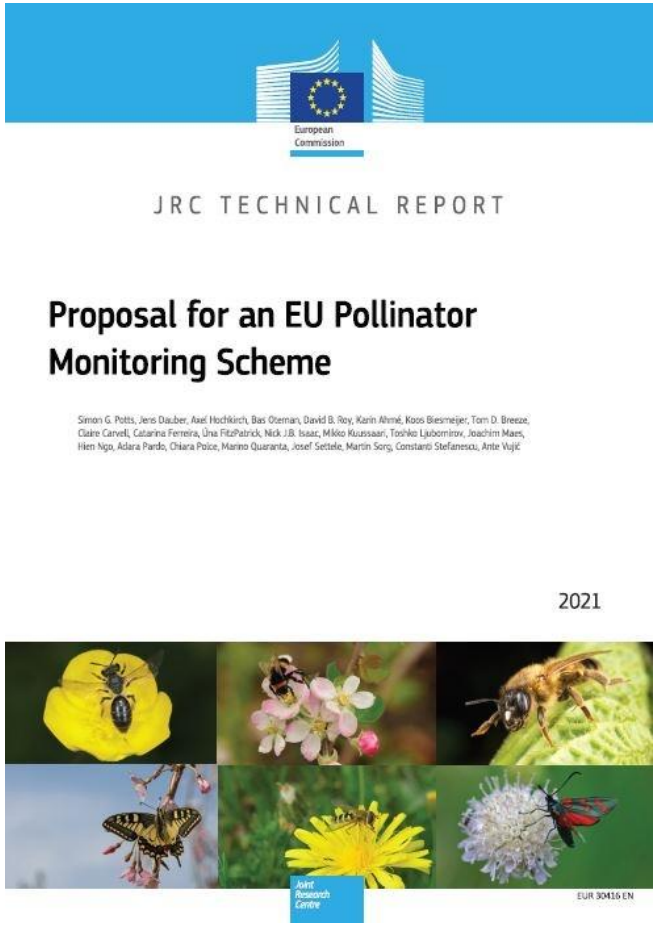
EU-PoMS *(Potts et al. 2021)*



Potts et al. 2021. Proposal for an EU Pollinator Monitoring Scheme. doi:10.2760/881843

SPRING: MVS methods – why were pan traps and transects chosen?

- Quality of data produced
- Biases and limitations
- Feasibility of use by citizen scientists as well as professionals
- Sample processing, identification and longer term storage
- Costs



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SPRING: MVS methods – why were pan traps and transects chosen

- **Standardised transect walks** (a passive method - not relying on attracting insects)
  - By volunteers focused on measuring relative *abundance* of bees, butterflies and hoverflies
- **Pan trapping** (active - relying on attracting insects) to collect a wider range of taxa
  - By volunteers or paid staff/technicians to set and collect traps, with identification of captured insects undertaken by experts.
  - Estimate *occupancy* of a wider range of taxa

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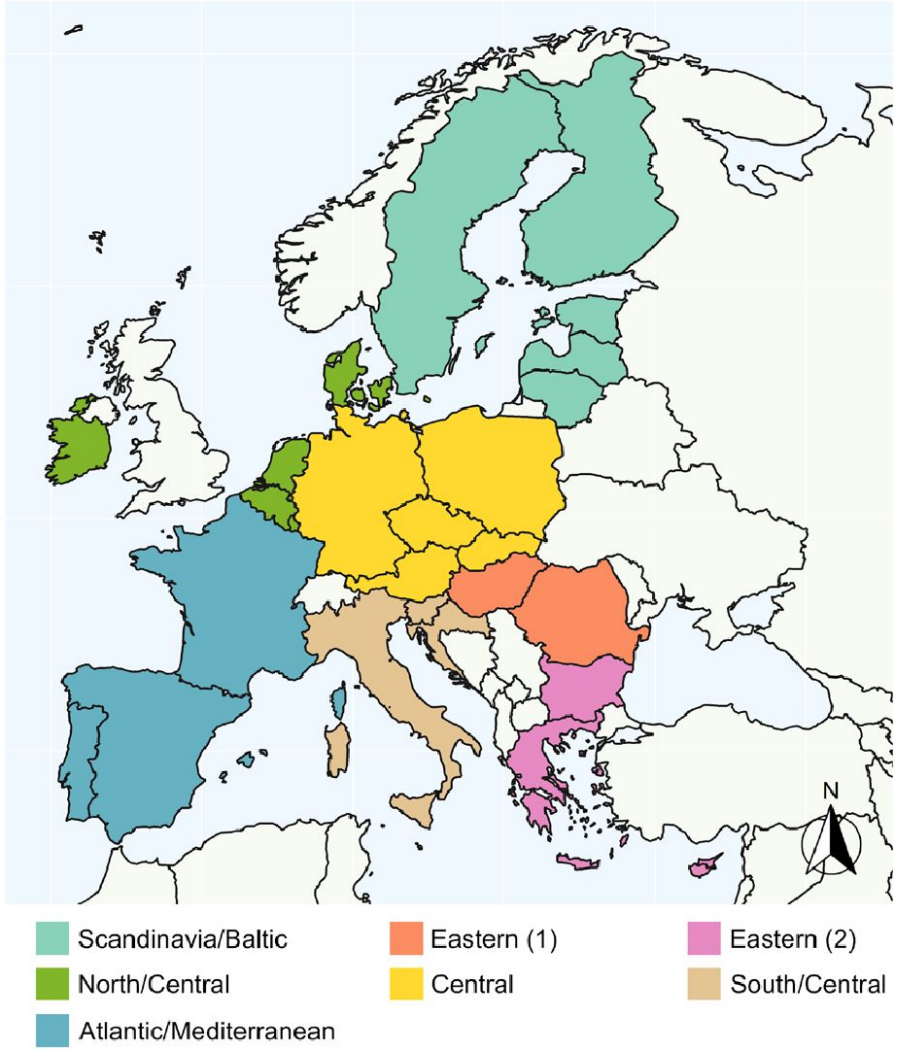
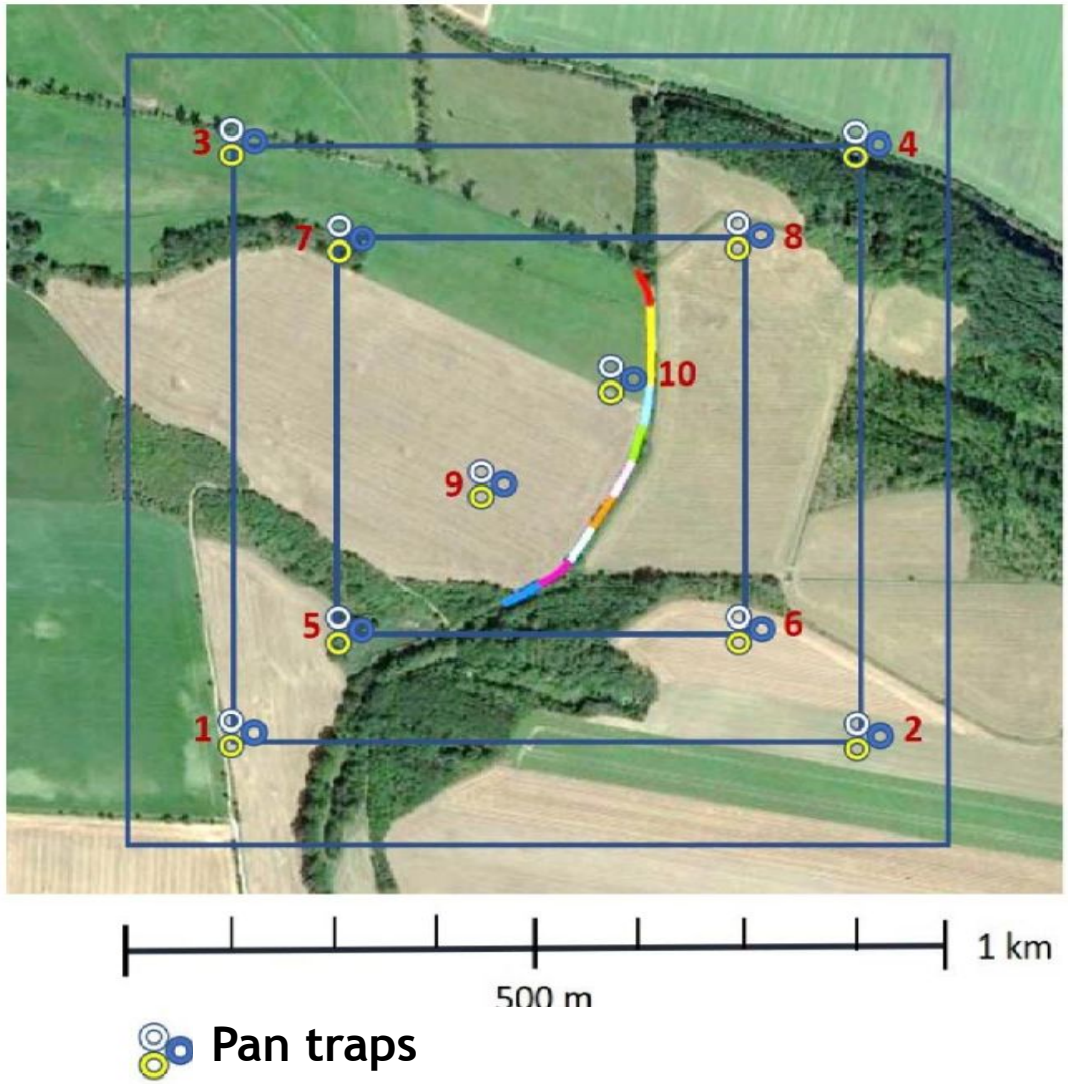
SPRING: How we tested the MVS

Organised by 7 regions of Europe

- Region 1. Scandinavia/Baltic: **Sweden**, Lithuania, Latvia, Finland, Estonia
- Region 2. Eastern 1. **Hungary**, Romania
- Region 3. Eastern 2. **Greece**, Bulgaria, Cyprus
- Region 4. Atlantic/Mediterranean. **Spain**, France, Portugal
- Region 5. North/Central. **Netherlands**, Belgium, Denmark, Ireland, Luxembourg.
- Region 6. Central. **Germany**, Czech Republic, Austria, Poland, Slovakia
- Region 7. South/Central. **Italy**, Croatia, Malta, Slovenia



Survey square – year 1 & 2



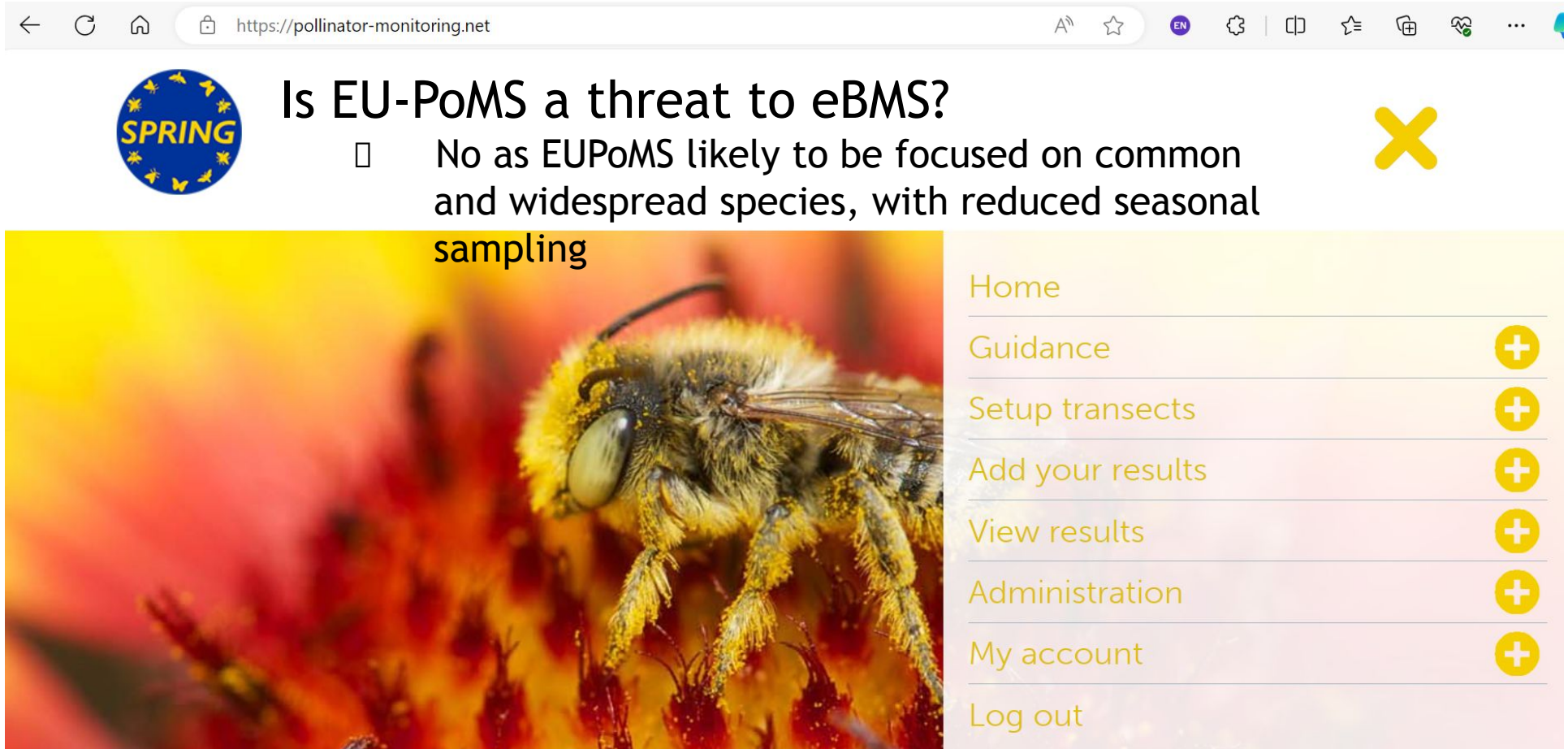
10 sets of pan traps - x formation

A 500m transect with 10 x 50m sub-sections

Sample throughout the season

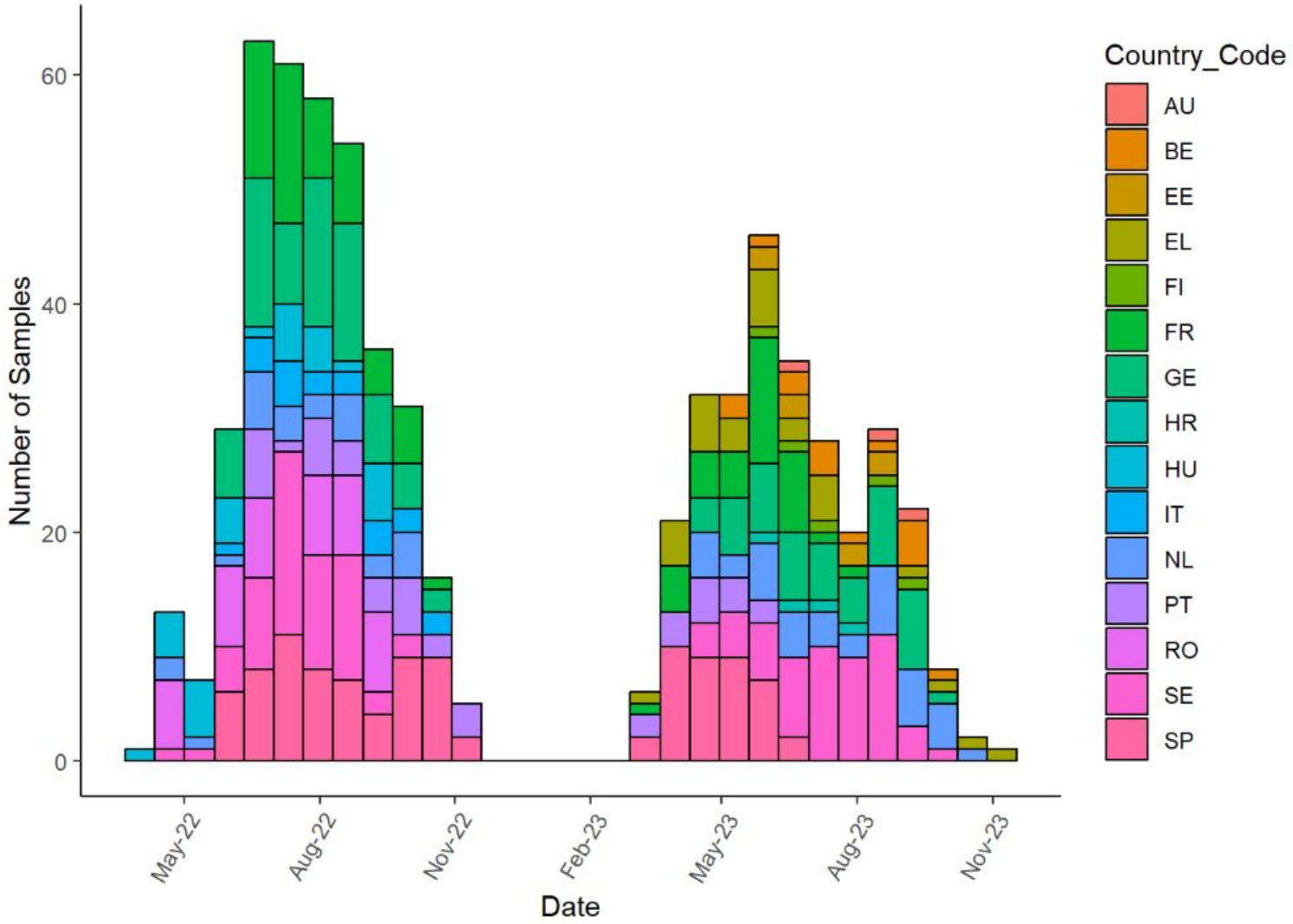
Data entry system

Built using adaptable and open source software (Indicia and Drupal), adapted from a tried-and-tested system used by the UK Pollinator Monitoring Scheme since 2017 and eBMS since 2019



Results – headline numbers

231 sites, sampled on 1105 separate days



Results – headline numbers

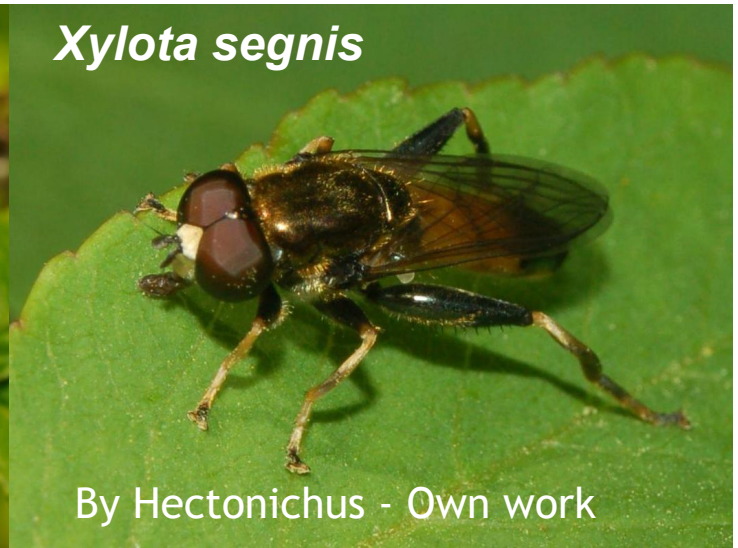
<u>Overall diversity</u>

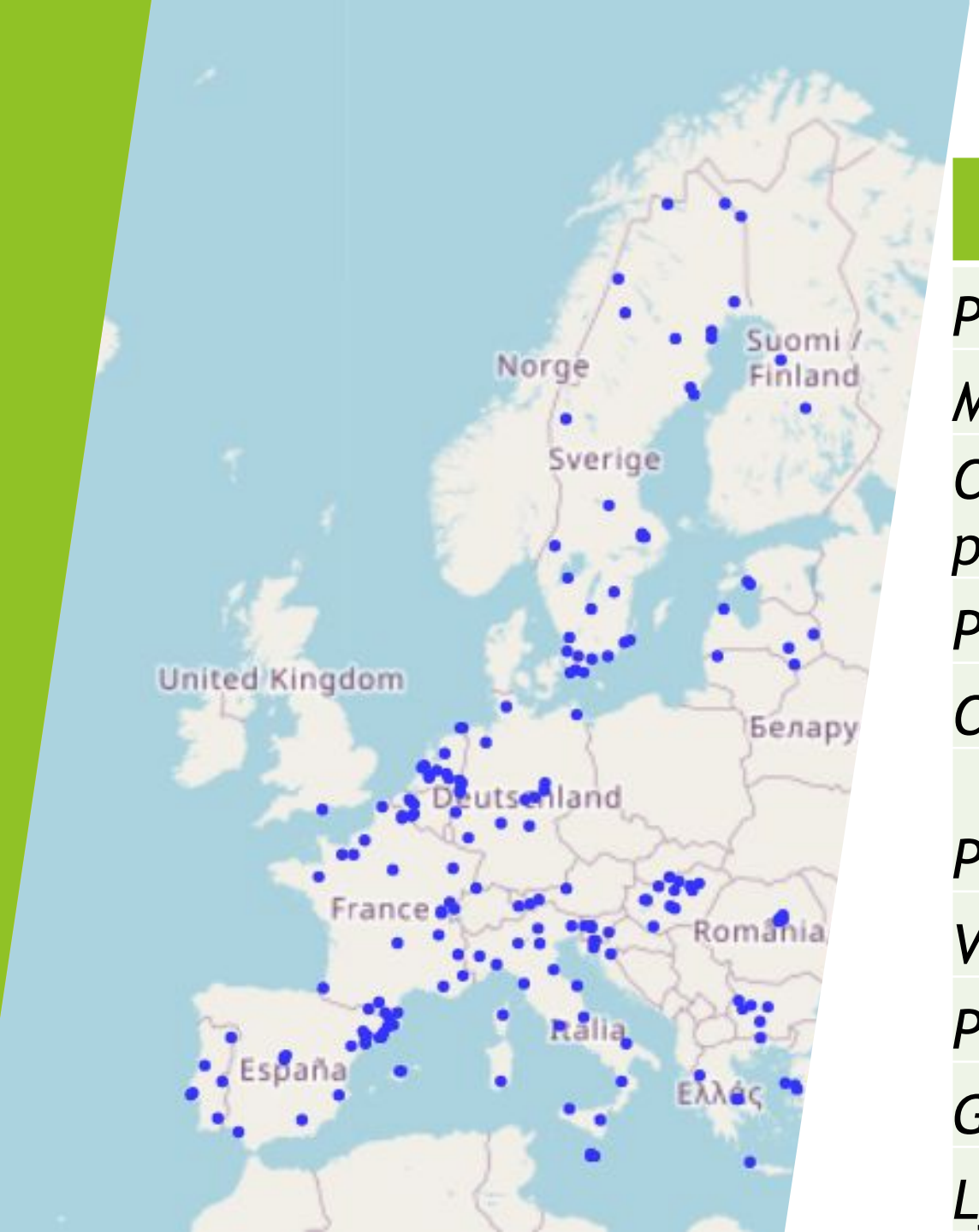
527 bees (~25% of EU list)

224 butterflies (~50% of EU list)

197 hoverflies (~22% of EU list)

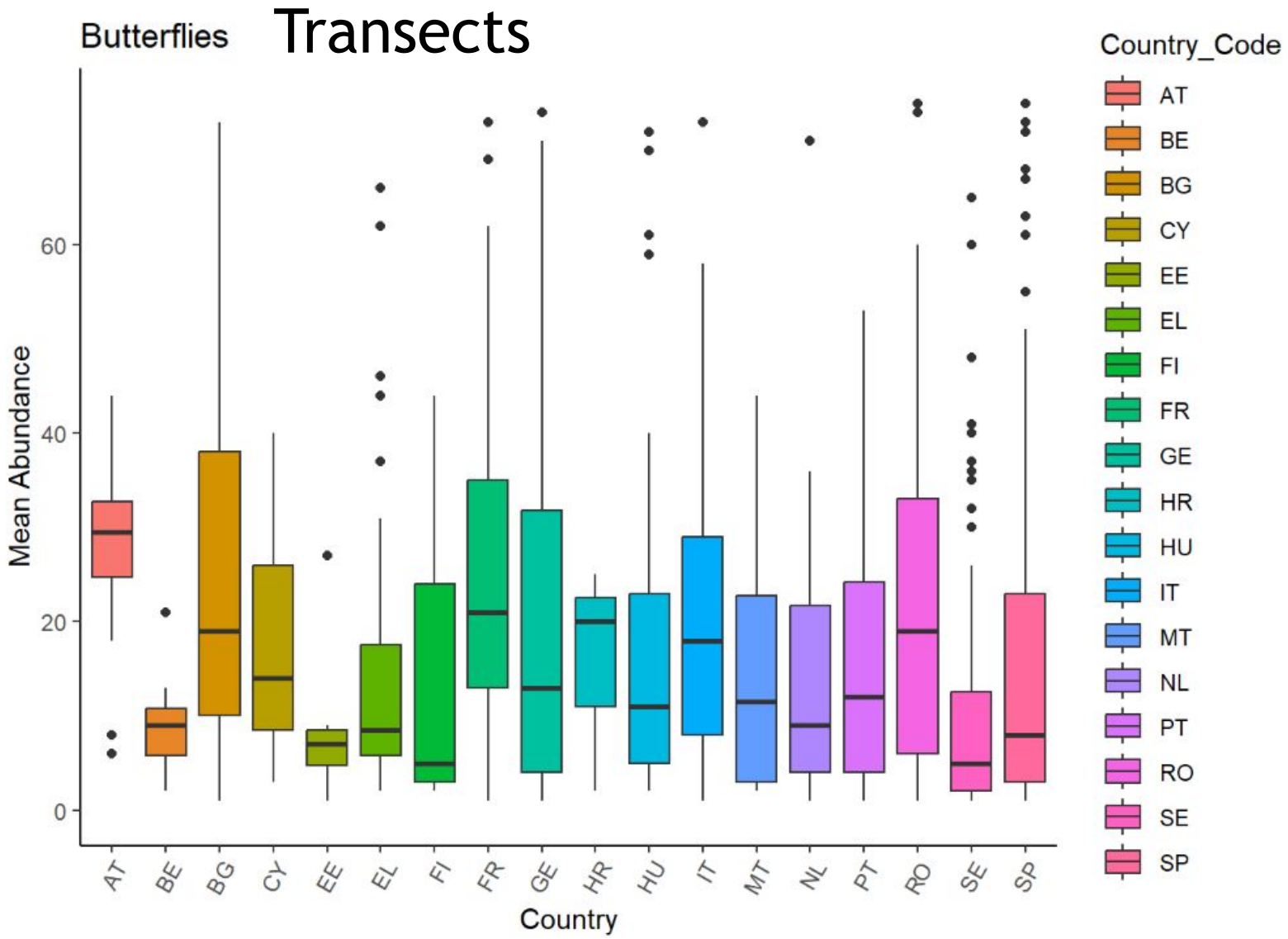
75,000 species occurrence records
(butterflies, bees, hoverflies, plants)





Taxon	Common name	Freq	N
Pieris rapae	Small White	274	1739
Maniola jurtina	Meadow Brown	251	3046
Coenonympha pamphilus	Small Heath	228	1260
Polyommatus icarus	Common Blue	194	1288
Colias crocea	Clouded Yellow	123	634
Pieris napi	Green-veined White	120	353
Vanessa atalanta	Red Admiral	115	219
Pieris brassicae	Large White	112	391
Gonepteryx rhamni	Brimstone	107	248
Lycaena phlaeas	Small Copper	103	303

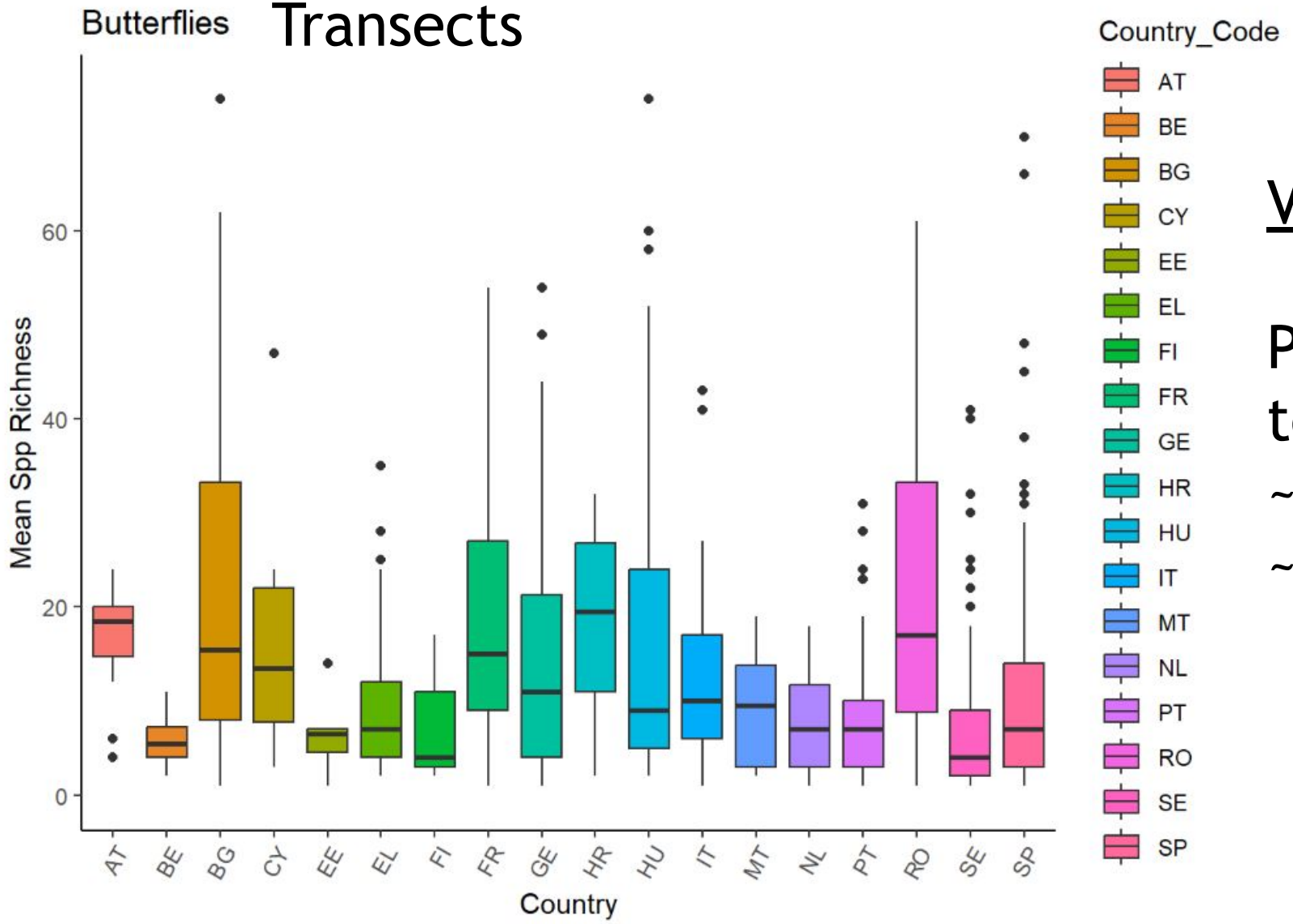
Results – Butterfly **abundance**



<u>Very crude</u> <u>averages</u>

Per sampling visit
to a site
~23 individuals
~5 species

Results – Butterfly **diversity**



Very crude averages

Per sampling visit
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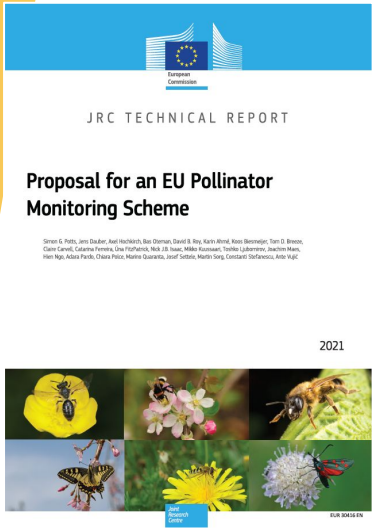
EU Pollinator Monitoring Scheme (EU PoMS)

Design (2019-2021) → **Pilot, Build Capacity & Refine (2021-2025)** → **Roll out (2026…)**



EU PoMS: Expert report

Recommendations

EU PoMS requirements:

- Pollinator Indicators: general (& farmland)
- High quality species abundance data
- Standardised methods
- Taxonomic resources

1 2

STING: Science and Technology for pollinatING insects

How does EU PoMS benefit eBMS?

- Capacity building – training resources and courses
- Raised profile for insect monitoring
- Improved spatial coverage, helping with eBMS biases?

How can eBMS and EU PoMS work together

- Shared analysis and indicator approach, e.g. RBMS
- eBMS can provide seasonal coverage
- eBMS can focus on citizen science and coverage of rare species and important habitats

How is EU-PoMS different to eBMS?

- EUPoMS focused on common and widespread species, with reduced seasonal sampling. Less sensitive than eBMS

Regional co-ordinators
Taxon experts
Volunteers
Lisa Gecchele for data analysis support

EU Parliamentary Pilot project
via a service contract
with DG Environment
Contract no. 07.027742/2018/790285/SER/ENV.D.4

The EU and MEPs for funding and support for the Strengthening Pollinator Recovery through INdicators and monitorinG (SPRING) project