SPRING



Strengthening Pollinator Recovery through INdicators and monitorinG

General objective: strengthen taxonomic capacity in EU Member States with regard to pollinating insects, and support preparation for the implementation of the **EU Pollinator Monitoring Scheme "EU-PoMS"**





EU-POMS (Potts et al. 2020)









Task 1.1 – Expanding eBMS

eBMS



Aim: Complete coverage of European Butterfly Monitoring Schemes as an **eBMS** partnership in all EU member states

- Establish a BMS in EU countries where it is not yet established
 - Priority support 6 countries: Denmark, Greece, Latvia, Lithuania, Romania and Slovakia
- Support and develop a unified, sustainable and cost-effective European butterfly monitoring network
 - 10 ABLE countries: Starting BMS & Fledgling BMS
 - General support





Task 1.2 – Build CS networks

The prioritization of EU countries for <u>strengthening citizen science networks on</u> <u>pollinators</u>, avenues to engage relevant actors, especially in countries with low or non citizen science capacity.

Expected results

- Work with key NGOs, citizen science organizations and partnerships with a European (e.g. the European Citizen Science Association) or global (e.g. the Citizen Science Association) focus.
- Draw upon our collective experience of citizen science approaches, with particular focus on projects assessing pollinating insects and pollination
- Provide an assessment of the capacity of citizen science networks in EU countries: particular attention current unevenness in citizen science and generally weaker current capacity in Eastern and Southern Europe.
- > Prepare and execute **plan of capacity-building activities**, target 15 countries







Task 2 – Taxonomic Capacity Building

Sufficient level of taxonomic knowledge with citizen scientists involved in the MVS activities of EU-PoMS for wild bees and hoverflies, plus butterflies [and moths] in all EU countries.

Expected results

- Produce online materials for basic taxonomic training for wild bees and hoverflies, and if needed for butterflies and day-flying moths that can be adapted and translated by regional/national coordinators into local instruction materials.
- Produce online materials for basic field recognition training of wild bee and hoverfly taxa (groups, some genera and distinctive species)
- Technically prepare the image recognition app ObsIdentify for European pollinators (butterflies, moths, wild bees and hoverflies)
- Develop the set-up of a basic taxonomy course, including materials needed and instructions for trainers
- Conduct **train-the-trainer courses** for national coordinators and experts
- Conduct basic taxonomy courses for pollinator recorders in all EU countries



Naturalis Biodiversity

Center



Task 3 - Piloting Minimum Viable Scheme (MVS) in EU

Support all 27 EU Member States in piloting the Minimum Viable Scheme (MVS) of EU-PoMS and refining the MVS methodology.

Expected results

- Task 3.1: Test the MVS in at least 209 sites across the EU, representing at least 10% of the number of monitoring sites proposed by Model 2 of the EU-PoMs (Potts et al., 2020).
- Task 3.2:Support the refinement of the MVS methodology
 - Pilot fieldwork to test elements of the MVS requiring further development
 - A floral assessment protocol for the MVS
 - Update recommendations on survey design and costs
 - An updated indicator framework for the CAP indicator
 - Revised recommendations for the EU-PoMS Minimum Viable Scheme







Minimum Viable Scheme (MVS)









Minimum Viable Scheme (MVS)









Support MVS pilots in EU Member States

The MVS methods will be piloted at 1-24 sites per country, according to the geographic area of each country. Those sites will include sites that are already part of other Schemes, e.g. within the eBMS partnership

7 regions of Europe for coordination of Task:

- Region 1. Scandinavia/Baltic: Sweden, Lithuania, Latvia, Finland, Estonia
- Region 2. Eastern 1. Hungary, Romania

UFZ

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- 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

be piloted at 1-24 sites per country, according to the







Task 4: Testing complementary and additional modules Task 4.1 - Testing the moths module

A robust set of standardised approaches for monitoring of moths across the EU which will seamlessly plug into and complement the MVS

Expected results

- Rigorously field-tested across representative EU Members States and European habitats (Table)
- Developed to include detailed protocols for the setup and implementation of traps, identification of samples, data collation and validation



Climate	Country	Partner
Continental	Germany	UFZ
Mediterranean	Spain	CREAF
Pannonian	Hungary	Centre for Ecological Research
Boreal	Sweden	Lund
Atlantic	NL	Vlinderstichting









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Complementary Approaches – Moth Module









Task 4: Testing complementary and additional modules Task 4.2 - Testing wider insect biodiversity module

Assessment of the extent to which Malaise traps can add value to the MVS methods through the provision of measures of biomass and diversity of other pollinating insects in addition to bees, hoverflies and butterflies

Expected results

- Review of existing Malaise trap projects to identify current best practices for trap design, protocols and sample identification.
- Rigorous field-test and calibration of Malaise traps run in parallel to MVS across representative EU Member States and European habitats.
- Assessment of the feasibility for citizen scientists to implement Malaise trapping
- Development of detailed protocols for the setup and implementation of traps, identification of taxa and storage of samples, data collation and validation
- Full cost analysis taking into account staff, equipment, travel, and training as well as sample processing, storage and identification costs





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Additional Modules: Wider insect biodiversity module









Additional Modules: Wider insect biodiversity module







The Full EU-PoMS









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- 1. UFZ
- 2. Naturalis
- 3. De Vlinderstichting
- 4. UKCEH
- 5. Butterfly Conservation Europe
- 6. Butterfly Conservation UK
- 7. Centre for Ecological Research
- 8. CREAAA
- 9. Creaf, UAB
- 10. EIS European Invertebrate Survey
- 11. University of Helsinki
- 12. Université Libre de Bruxelles
- 13. University of Alicante
- 14. University of Lund
- 15. University of Mons
- 16. University of Novi Sad
- 17. University of Reading
- 18. University of The Aegean
- 19. Senckenberg







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Thank you



