

Update on the Assessing Butterflies in Europe (ABLE) project

ANL conference centre, Laufen, 3 December 2019

David Roy



Contents

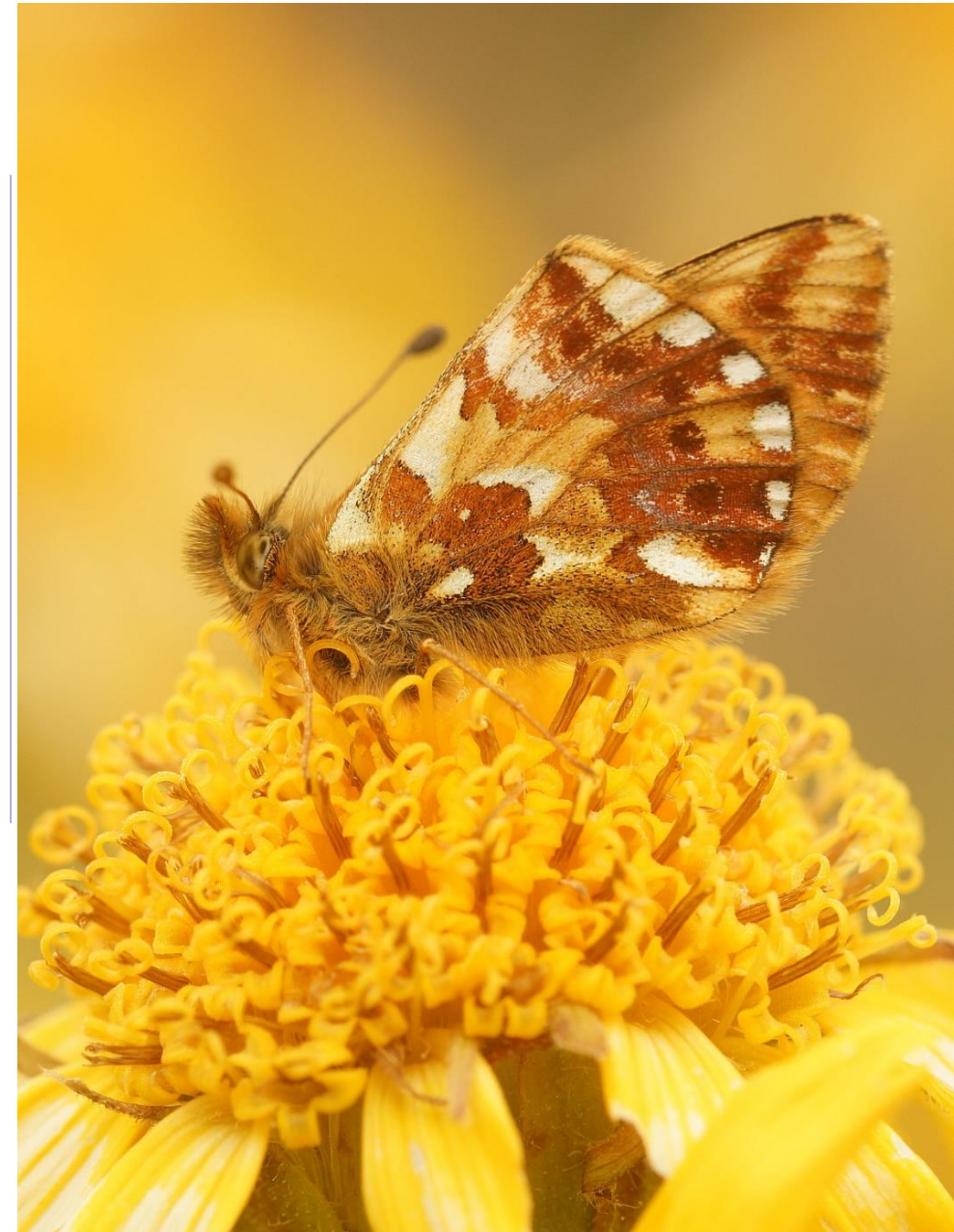
► Introduction

- why we need butterfly monitoring more than ever

► Highlights from ABLE in 2019

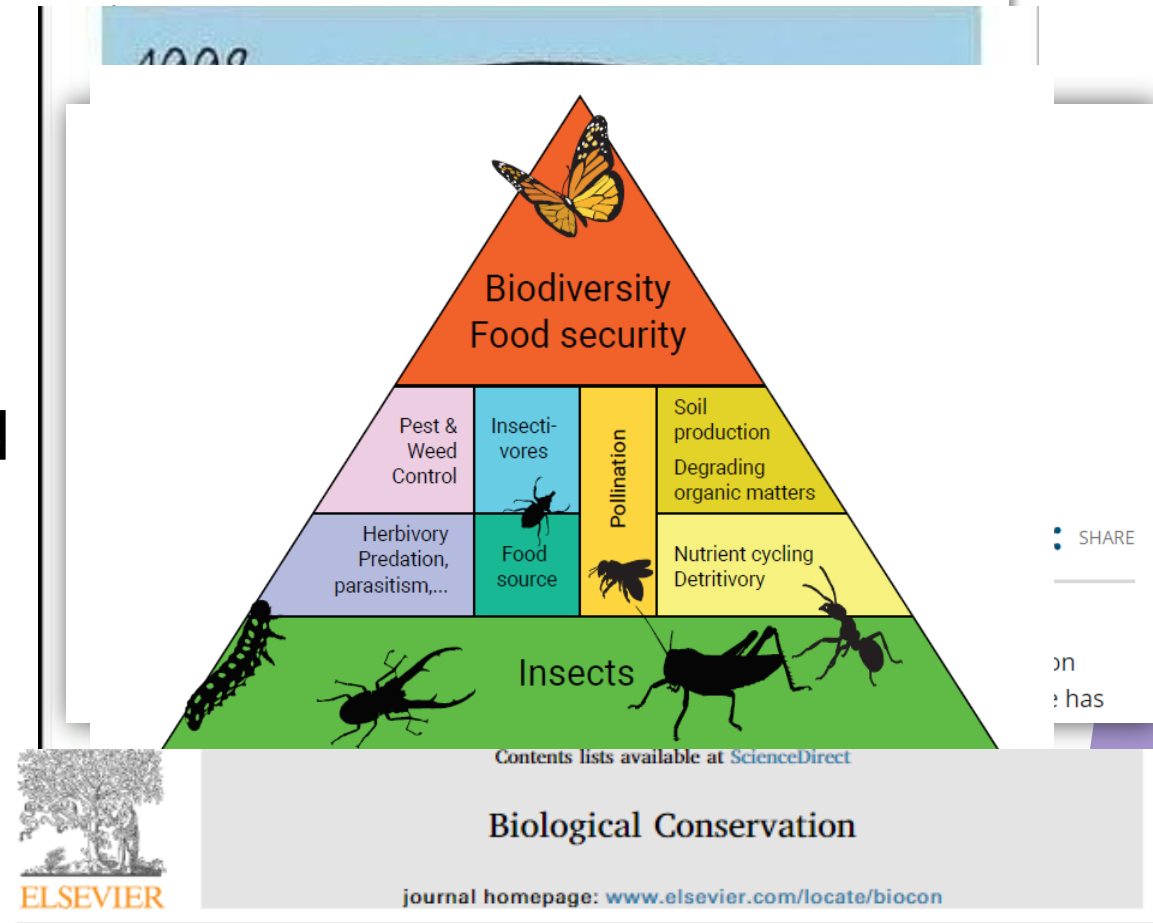
- Expanding the network
- Tools to support butterfly monitoring
- BMS for policy and conservation
- Building indicators

► Next steps



Insect declines

- ▶ Current decline of insects:
↓ insect biomass and diversity
- ▶ Causes: intensive agriculture, land use change and climate change
- ▶ Insects are fundamental to ecosystems..... but have been overlooked for too long
- ▶ Few long-term studies of insect populations



Perspective

Is the insect apocalypse upon us? How to find out

Graham A. Montgomery^{a,b,*}, Robert R. Dunn^c, Richard Fox^d, Eelke Jongejans^e, Simon R. Leather^f,
Manu E. Saunders^{g,h}, Chris R. Shortallⁱ, Morgan W. Tingley^{a,b}, David L. Wagner^a

ABLE Project: Assessing ButterfLies in Europe



- ▶ Create a wider monitoring network of butterflies in Europe
- ▶ Delivered by: BCE, UKCEH, UFZ, Dutch-BC, UK-BC
- ▶ With amazing support from BCE partners
- ▶ European Pilot-Project: 2019 - 2020



Support and develop the monitoring network

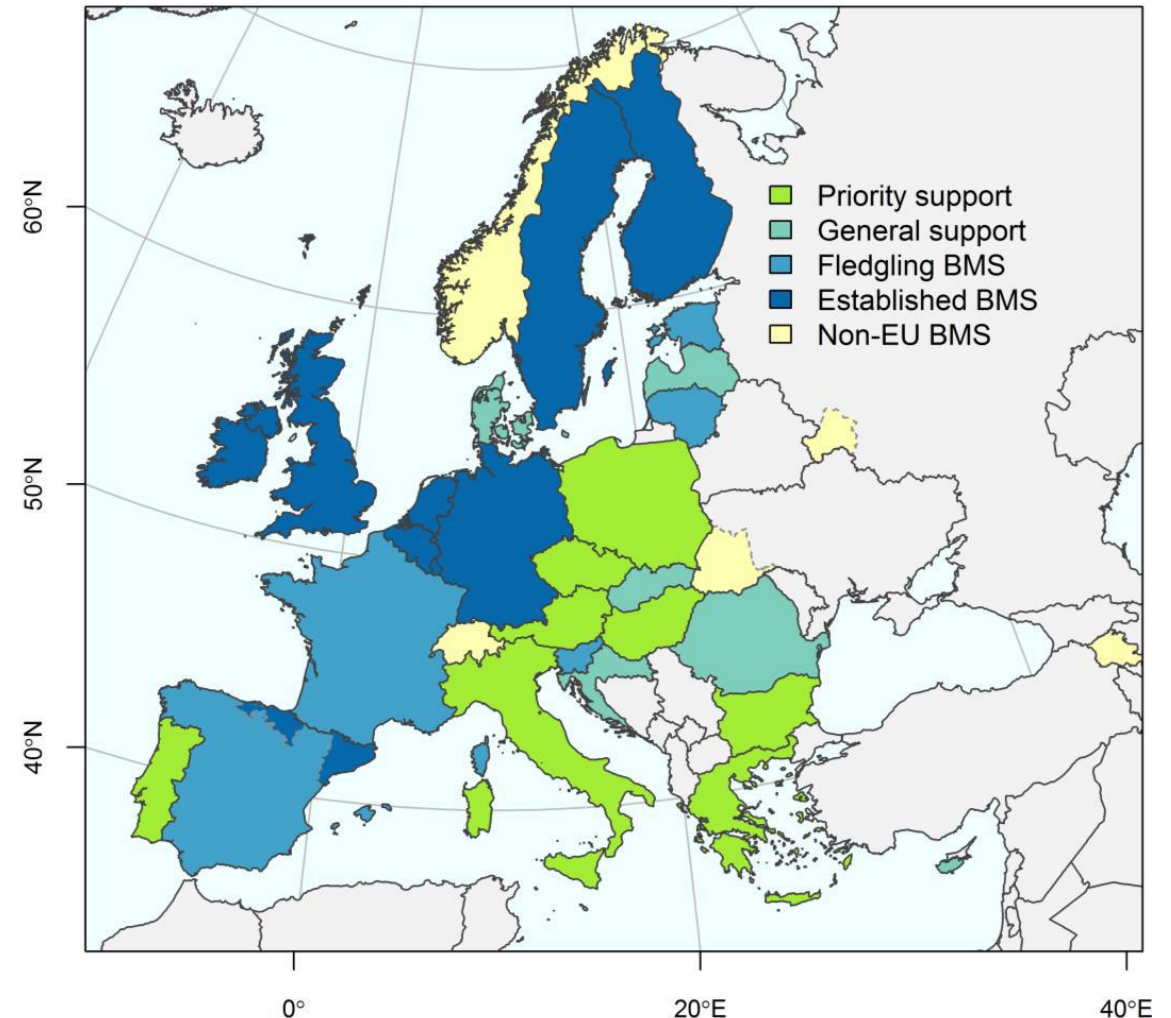
Support, training, feedback and tools for butterfly monitoring and analysis as an effective citizen science approach

In 2019:

- ▶ 11 workshops and 2 training seminars
- ▶ 6 countries (Hungary, Austria, Portugal, Spain, Italy and Cyprus)

Thanks to the national co-ordinators and many helpers

- ▶ Attended by more than 400 people

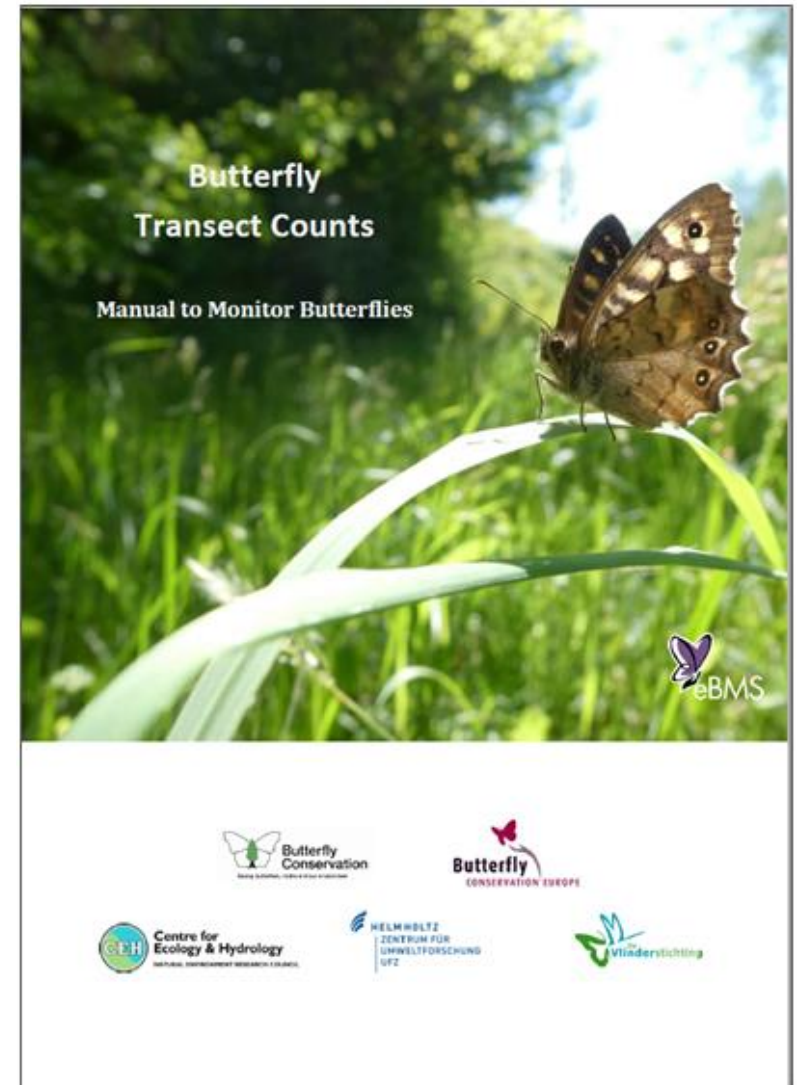




Support and develop the monitoring network

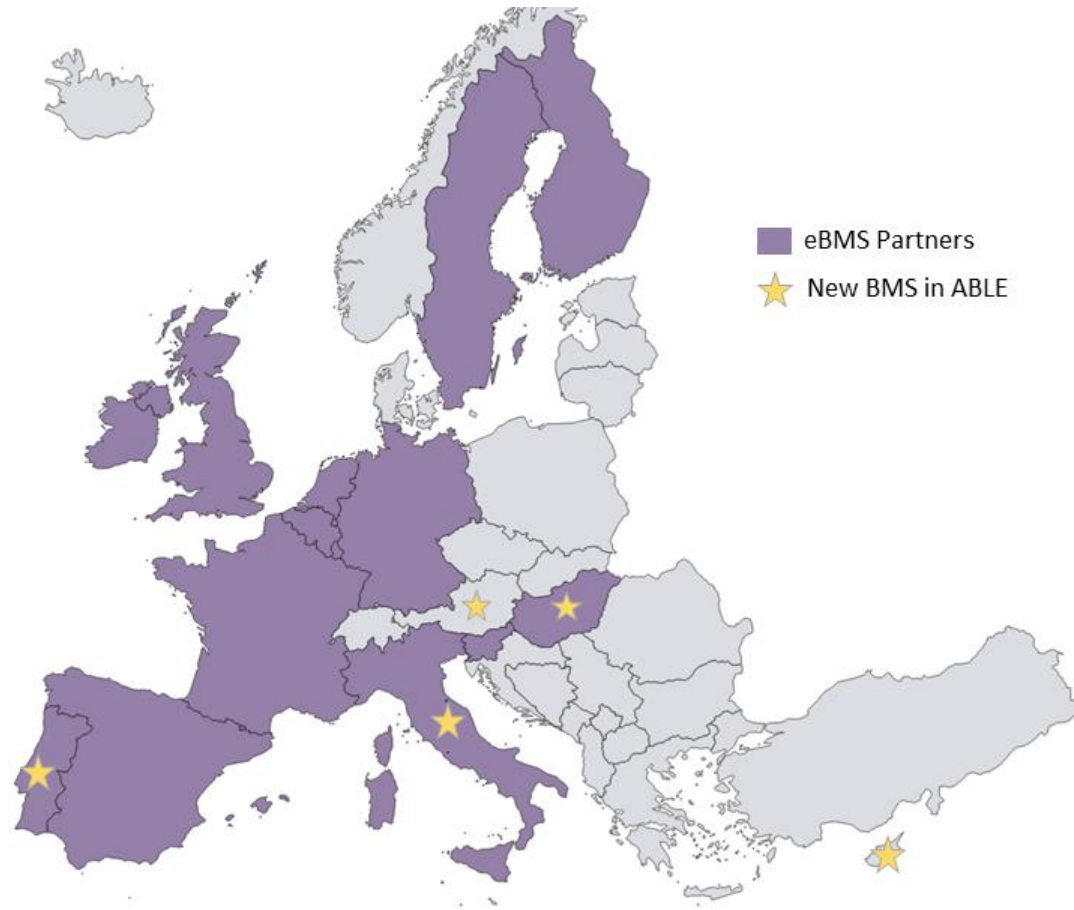
Support, training, feedback and tools for butterfly monitoring and analysis as an effective citizen science approach

- ▶ Dissemination of our work, including through our newsletter
- ▶ Updated transect manual, eBMS leaflet and regional field guides



Support and develop the monitoring network

Support, training, feedback and tools for butterfly monitoring and analysis as an effective citizen science approach



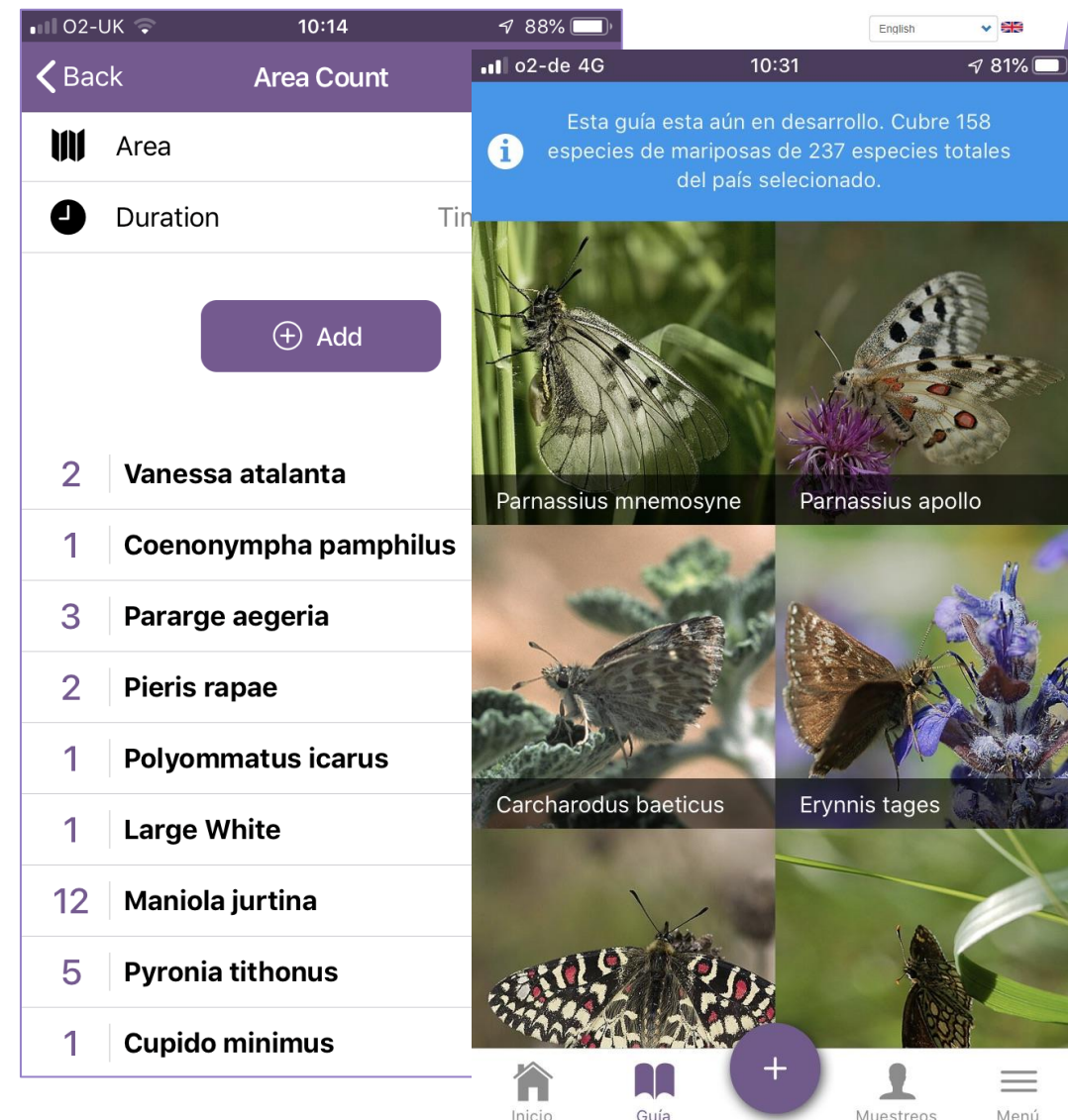
How you are helping

- Promoting the ABLE newsletter, see <https://butterfly-monitoring.net/able>
- Joining eBMS and contributing your data
- Helping to test the ABLE tools and with translations
- Helping to promote to your networks and national stakeholders
- Giving us your ideas - during this meeting and by contacting Cristina

Tools and data systems

- ▶ Database and analysis tools to support national reporting and indicators
- ▶ Website to capture transect data and show results.
 - Website being used by new schemes
 - Multi-lingual
 - For volunteers, with co-ordinators in control
- ▶ Mobile application for submitting counts

<http://butterfly-monitoring.net>



Butterfly monitoring for policy and conservation

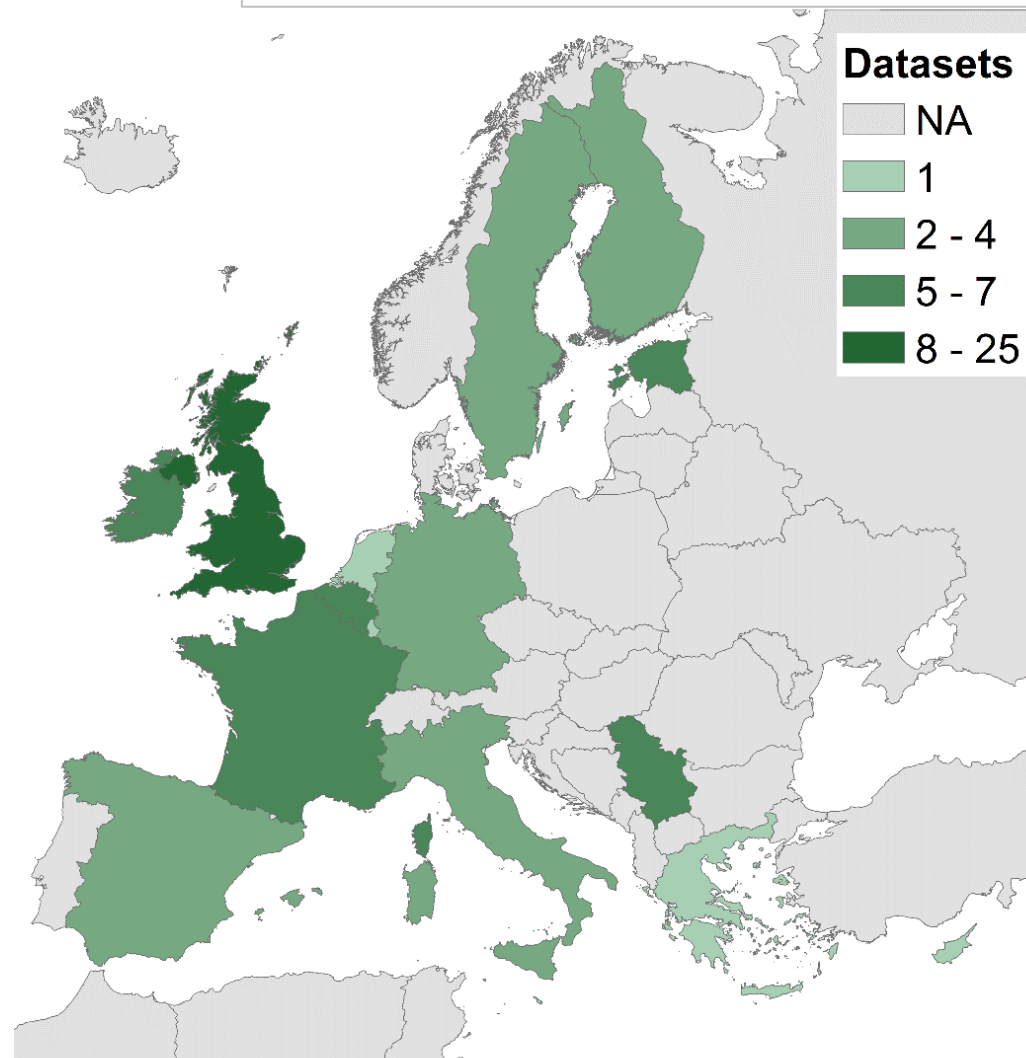
- ▶ Summarise lessons learnt from ABLE for **pollinator monitoring** and evaluation of impacts of agriculture
- ▶ Review impacts of **land management** (e.g. farming) and conservation measures (e.g. through Natura 2000)
- ▶ Produce enhanced **indicators** using the latest data and analysis methods
 - Habitats – grasslands, wetlands, woodlands, urban areas
 - Climate change impacts
 - Overall status of butterflies



Pollinator monitoring across Europe

- ▶ A 'long-list' of 77 datasets, from 16 EU Member states
- ▶ Main methods
 - ▶ Traps (pan, malaise etc)
 - ▶ Transect walks
 - ▶ Timed counts
 - ▶ Opportunistic recording
- ▶ Good representation of bees, hoverflies and butterflies. 'Service' data is lacking.
- ▶ Being used to suggest approaches to EU Pollinator Monitoring

Datasets to support design of pollinator monitoring schemes



Butterfly monitoring for policy and conservation

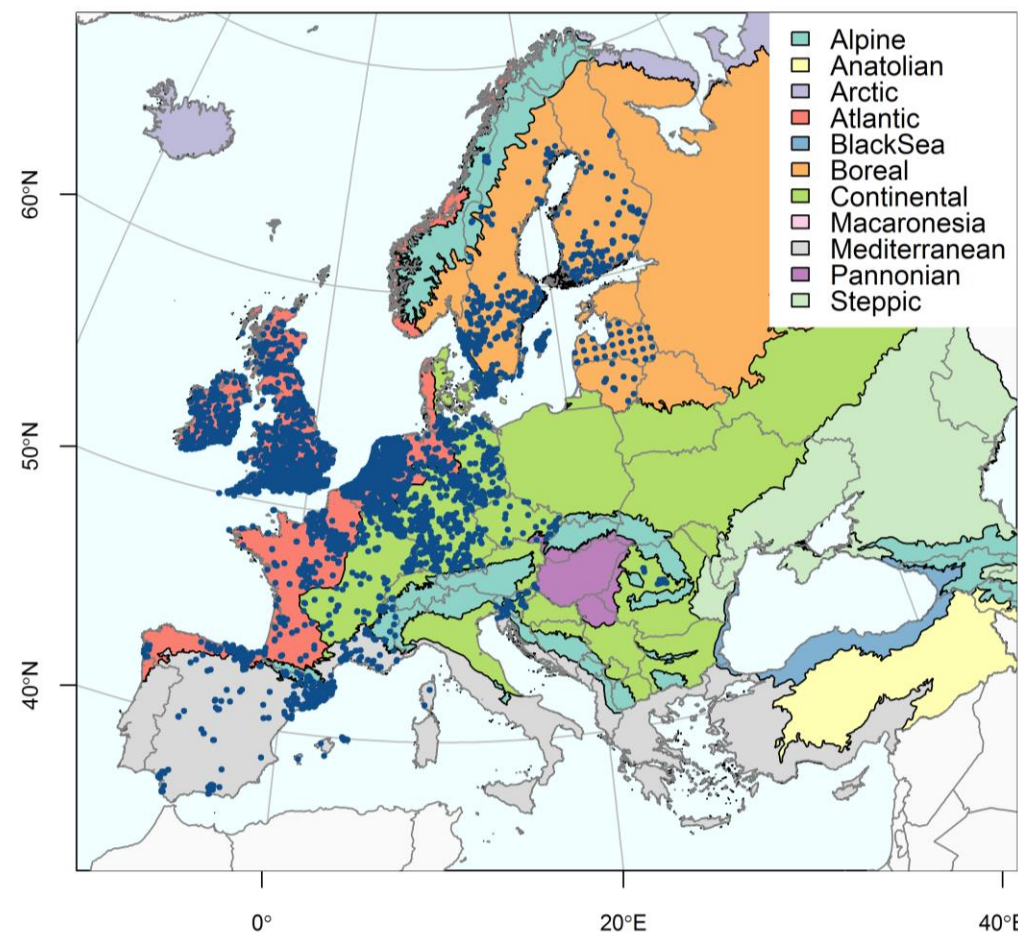
What we need to maximise our impact

- ▶ Representative butterfly monitoring across Europe
 - ▶ Geographic coverage, + protected sites
 - ▶ Species coverage, + protected species
 - ▶ Habitat coverage
- ▶ Relate butterfly trends to how land is being managed



Butterfly monitoring for policy and conservation

- ▶ How representative is bioclimatic coverage of butterfly monitoring?
 - ▶ Transect density is:
 - ▶ particularly high in the Atlantic region
 - ▶ moderate in the Continental, Mediterranean and Boreal regions
 - ▶ Low in the Alpine and Pannonian regions



Data upto 2017

Butterfly monitoring for policy and conservation

► How representative is habitat coverage of butterfly monitoring?

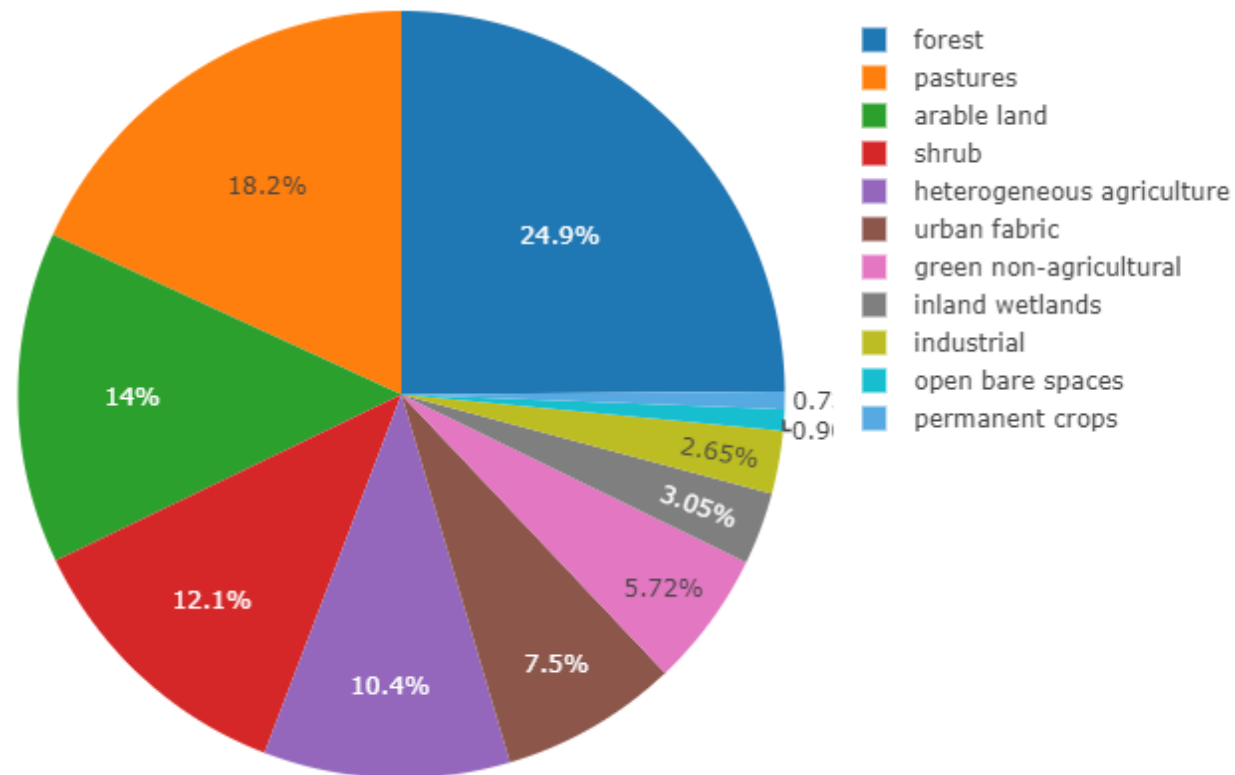
Forest (25% eBMS vs 38% EU)

Grassland (18% vs 21%)

Shrubland (12% vs 7%)

Urban (8% vs 4%)

Transects in eBMS



Butterfly monitoring for policy and conservation

- How representative is butterfly monitoring for Habitat Directive species?



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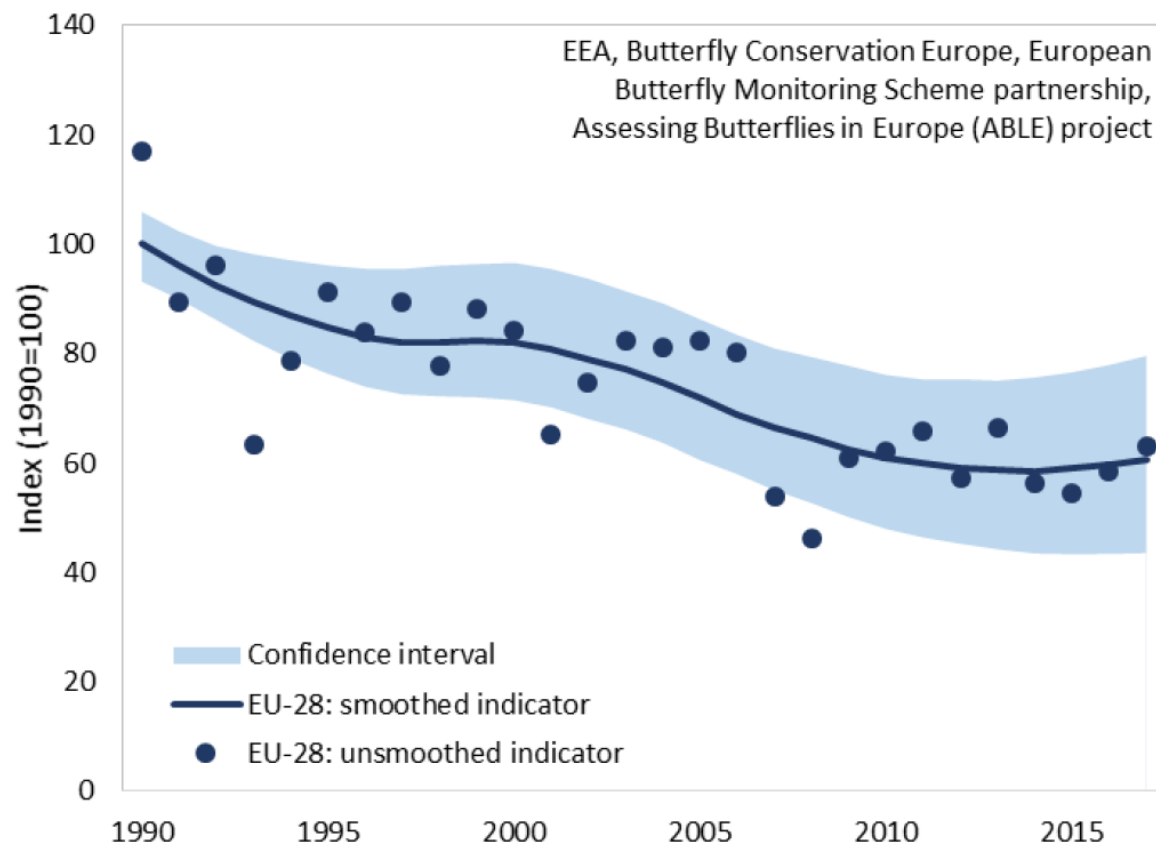
Species	# schemes	# sites
<i>Coenonympha hero</i>	2	10
<i>Coenonympha oedippus</i>	3	12
<i>Euphydryas aurinia</i>	11	51
<i>Euphydryas maturna</i>	3	15
<i>Lopinga achine</i>	6	27
<i>Lycaena dispar</i>	8	37
<i>Lycaena helle</i>	2	9
<i>Parnassius apollo</i>	7	30
<i>Parnassius mnemosyne</i>	6	23
<i>Phengaris arion</i>	10	41
<i>Phengaris nausithous</i>	4	18
<i>Phengaris teleius</i>	4	20
<i>Polyommatus golgus</i>	1	2
<i>Zerynthia polyxena</i>	3	14
Totals	70	309

Butterfly monitoring for policy and conservation

- ▶ Summarise lessons learnt from ABLE for **pollinator monitoring** and evaluation of impacts of agriculture
- ▶ Review impacts of **land management** (e.g. farming) and conservation measures (e.g. through Natura 2000)
- ▶ Produce enhanced **indicators** using the latest data and analysis methods
 - Habitats – grasslands, wetlands, woodlands, urban areas
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Produce policy-relevant butterfly indicators



The indicator shows a significant **decline of 39%**, most of which occurred in the periods 1990-1998 and 2002-2012.



ABLE priorities for 2020 and beyond

- ▶ Further extend the butterfly monitoring network for Europe
 - ▶ Focus supporting Greece, Bulgaria, Poland etc
- ▶ Develop and support tools and materials for butterfly monitoring
 - ▶ Regional ID guides
 - ▶ Launch the mobile application in spring
- ▶ Report on the status of butterflies in Europe
 - ▶ Update the eBMS Database and tools
 - ▶ Finalise and promote a range of indicators
- ▶ Help to improve the conservation status of butterflies and the wider environment





Thanks to:

- The EU and MEPs for funding and support
- Many, many people who have helped the ABLE project