



# BC's Recording Schemes



RECOVER. TRANSFORM. INSPIRE.  
SAVING BUTTERFLIES AND MOTHS

OUR 2021-2026  
STRATEGY



## BC's Recording Schemes play a key role in our new strategy



- Recover butterflies and moths
- Connect people to nature
- Unite for wildlife
- Tackle threats to species
- Manage land sustainably

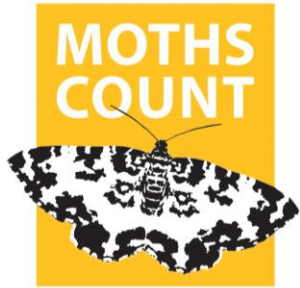




## Why record butterflies and moths?

- You cannot conserve them unless you know where they're found!
- Enables us to see how species are faring in terms of distribution
- Identify conservation priorities
- Protect habitats through the planning system
- Scientific Research projects (e.g. analysing and understanding declines, effects of climate change and other drivers of biodiversity change)

## Butterfly Conservation's over arching National Recording Schemes



### National Moth Recording Scheme

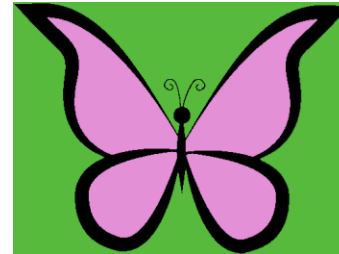
Established in 2007

UK, Isle of Man & Channel Islands

> 32 million macro-moth records

> 5 million micro-moth records

1741 – 2021 (280 years)



### Butterflies for the New Millennium

Established in 1995

UK, Isle of Man & Channel Islands

> 17 million butterfly records

1690 – 2021 (331 years)



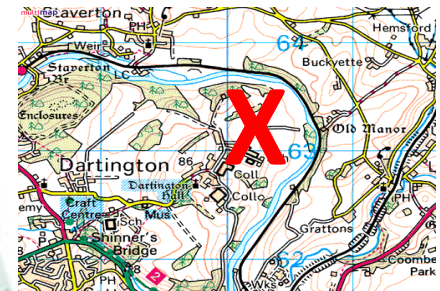


# What is a recording scheme?

Depository for biological records

What is a biological record?

- Species
- Recorder and determiner
- Date (for moths it's the night the trap was run)
- Grid reference and location





## Local data capture: the County Recorder Network

Volunteer local experts

Encourage recording

Promote moths and butterflies

Provide feedback to recorders

Collate local datasets

Verify records

Submission of records to NMRS and BNM  
(and other places in some cases)

**.....and often loads more...!**



# Other data sources: Online data capture



**Butterfly Conservation**  
Saving butterflies, moths and our environment

## Butterflies for the New Millennium Online

Butterfly recording is the foundation for protecting these beautiful animals. Simply by submitting your sightings of butterflies to the UK recording scheme, Butterflies for the New Millennium, whether from garden buddleia, local walk or remote mountain top, you can make a real contribution to their conservation across the UK. More information about Butterflies for the New Millennium.

Try our mobile app for recording butterflies by clicking on one of the links below.

**All new users of this BNM Online portal will need to create a new account.**

This portal links to iRecord. If you want to link to an existing iRecord account (for example if you use the iRecord butterflies app) then simply **use the same email address when you create your BNM Online account.**

Records submitted via this system are publicly available to view through iRecord. To find out more about what happens to your records, click [here](#).

If you already submit your records to your County Butterfly Recorder via another route then please continue to do so. This will help to avoid duplication of data.

Remember me

<https://www.butterflyrecording.org>

iRecord **Butterflies** 🔍

Flying now in your area

Meadow Brown

Ringlet

Marbled White

Small Heath

Species
 My Records
 Record
 About
 Menu

**Butterfly Conservation**  
Saving butterflies, moths and our environment

## National Moth Recording Scheme Online

Moth recording is the foundation for protecting these beautiful animals. Simply by submitting your sightings of moths to the UK's National Moth Recording Scheme, whether from kitchen window, back garden moth-trap or remote mountain top, you can make a real contribution to their conservation across the UK. More information about the National Moth Recording Scheme.

All new users of this NMRS Online portal will need to create a new account.

This portal links to iRecord. If you want to link to an existing iRecord account (for example if you use the iRecord app) then simply use the same email address when you create your NMRS Online account.

Records submitted via this system are publicly available to view through iRecord. To find out more about what happens to your records, click [here](#).

If you already submit your records to your County Moth Recorder via another route then please continue to do so. This will help to avoid duplication of data.

[About](#) [Contact](#)

**Join the Garden Butterfly Survey...**

[Sign up](#)

**Take part from your garden, allotment or community space...**

Tell us about your garden and the butterflies you see throughout the year. Together we can work out how best to help them and provide a much-needed haven all year round.

**Step 1. Join in**

Sign up and register your garden. You can add more than one garden and share community and allotment sites too.

**Step 2. Submit sightings**

Add your butterfly records. You can survey your garden all year round, as often as you like.

**Step 3. Survey reports**

Explore data. You can see your own results and find the latest reports from gardens across the UK.





# Citizen science surveys that contribute to the NMRS and BNM



Big Butterfly Count – mass participation



**mothnight**  
19th - 21st May 2022

- Home
- About Moth Night
- Themes
- Taking part
- Public Events
- News
- Prizes
- Submitting records
- Essential reading
- Moth Night Reports
- Useful links
- Contact us



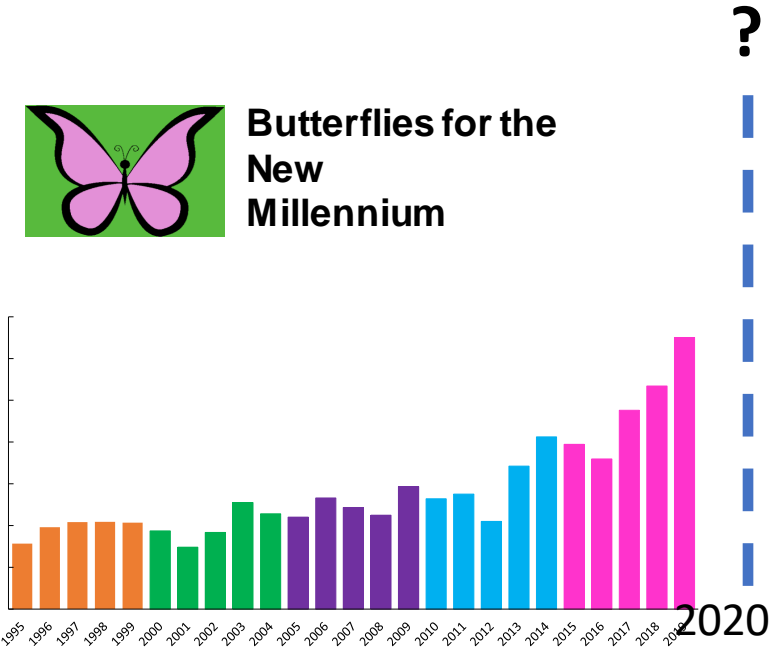
Annual celebration of moths & moth recording







# Growth in moth and butterfly recording





# BNM data use: Distribution maps

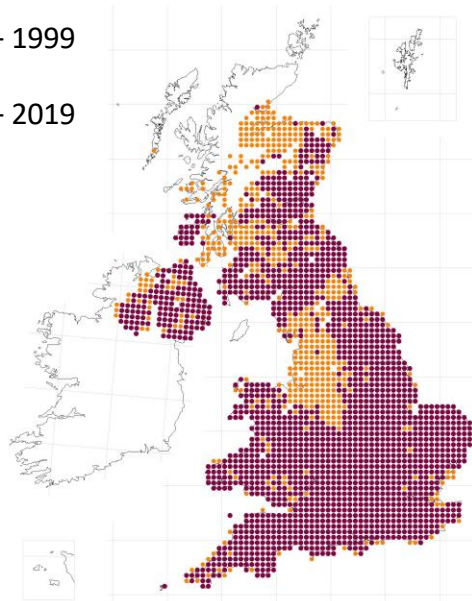


Ringlet (Keith Warmington)



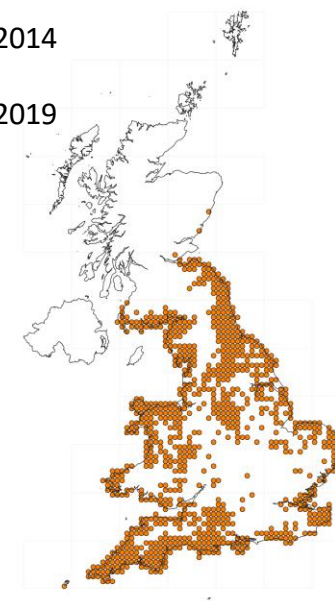
Wall (Iain H Leach)

- 1995 – 1999
- 2015 – 2019



63%  
1976 – 2014

- 1995 – 2014
- 2015 – 2019



-77%  
1976 – 2014

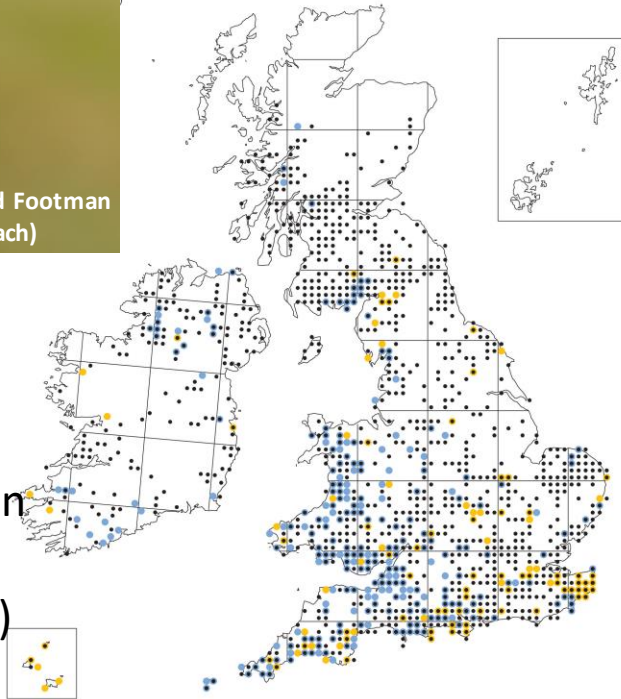


# NMRS data use: Distribution maps



Red-necked Footman  
(Iain H Leach)

- Pre 1970
- 1970-1999
- 2000 onwards



66%

GB distribution trend  
(1990 – 2016)

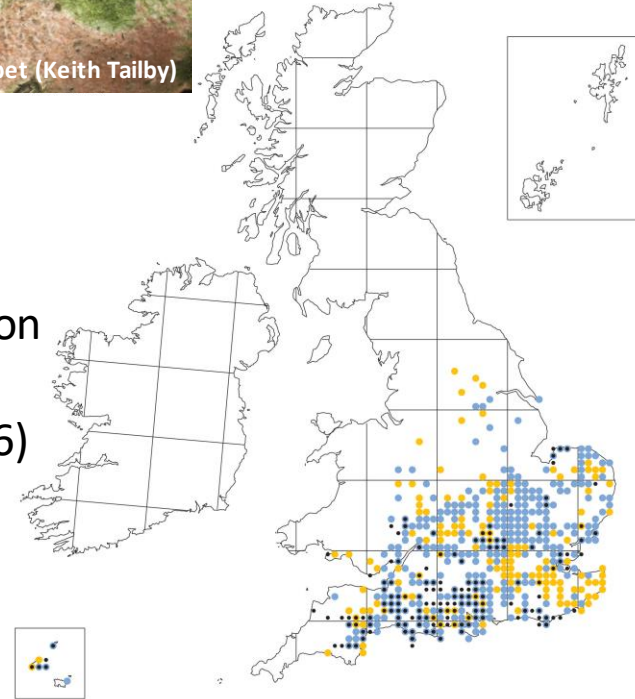


Lappet (Keith Tailby)

- Pre 1970
- 1970-1999
- 2000 onwards

-61%

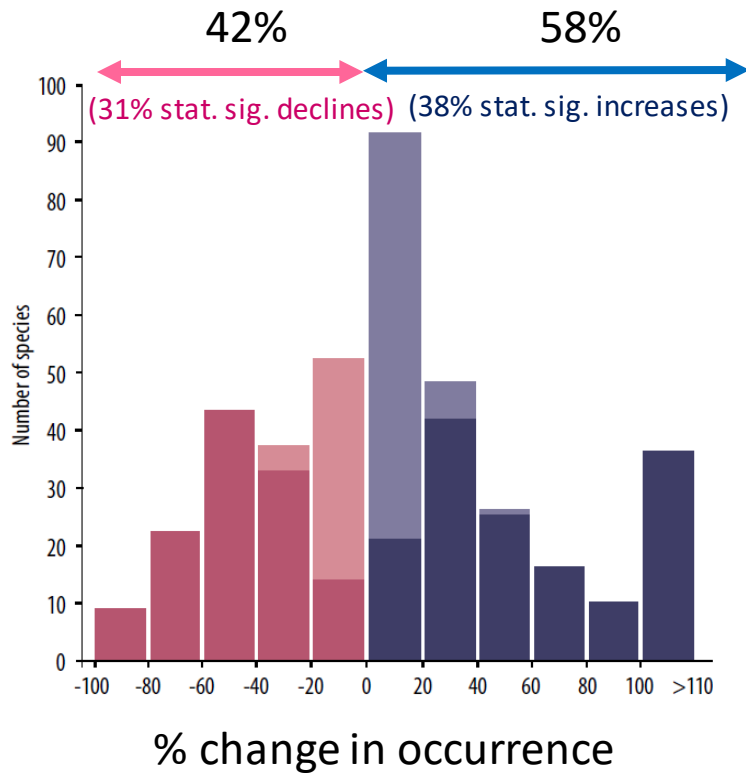
GB distribution trend  
(1980 – 2016)



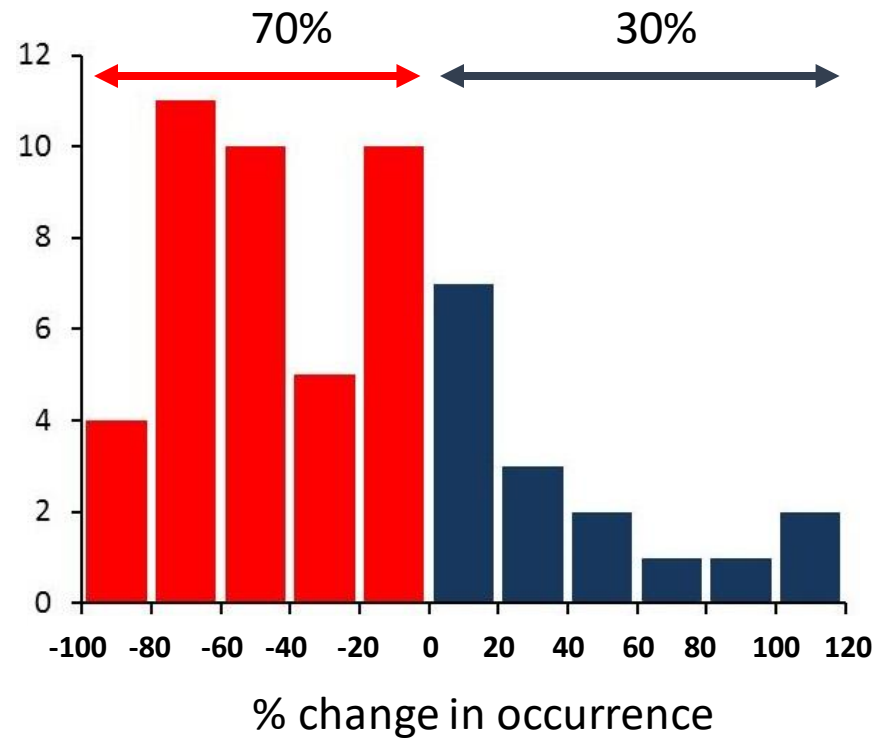


# NMRS and BNM Data use: Long-term distribution trends

## Moths long-term trends (1970-2016)



## Butterflies long-term trends (1976-2014)





## NMRS and BNM data use – Traits database

968 macro-moth and butterfly species

- life cycle ecology and phenology
- host plant specificity and characteristics
- breeding habitat
- morphological characteristics
- conservation status
- distribution (occupancy) trend
- abundance trend



Foxglove Pug (Robert Thompson)

Free to download from the UKCEH Environmental Information Data Centre (EIDC) website:

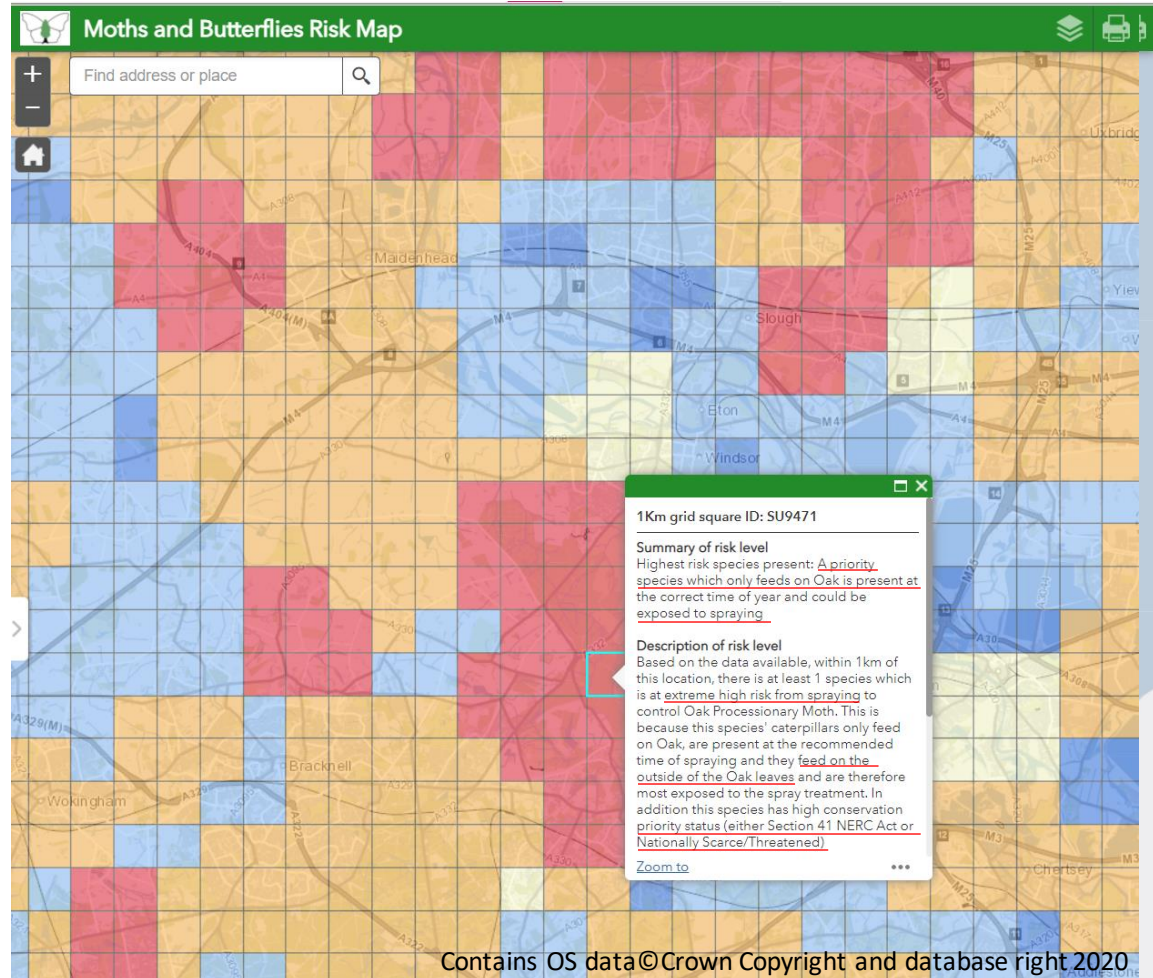
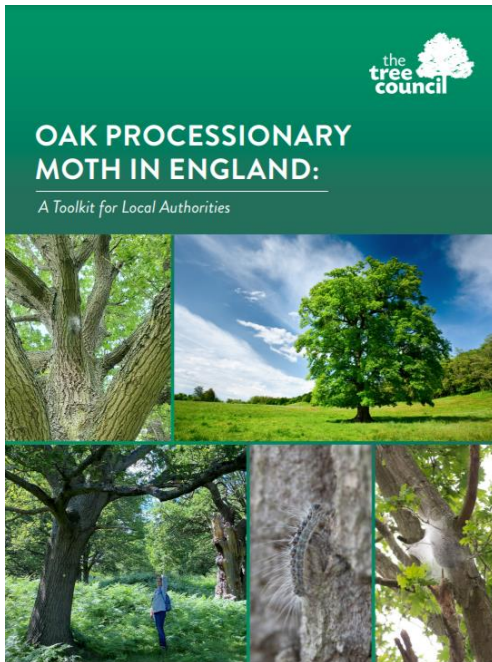
<https://catalogue.ceh.ac.uk/documents/5b5a13b6-2304-47e3-9c9d-35237d1232c6>

Cook, P.M.; Tordoff, G.M.; Davis, A.M.; Parsons, M.S.; Dennis, E.B.; Fox, R.; Botham, M.S.; Bourn, N.A.D. (2021).



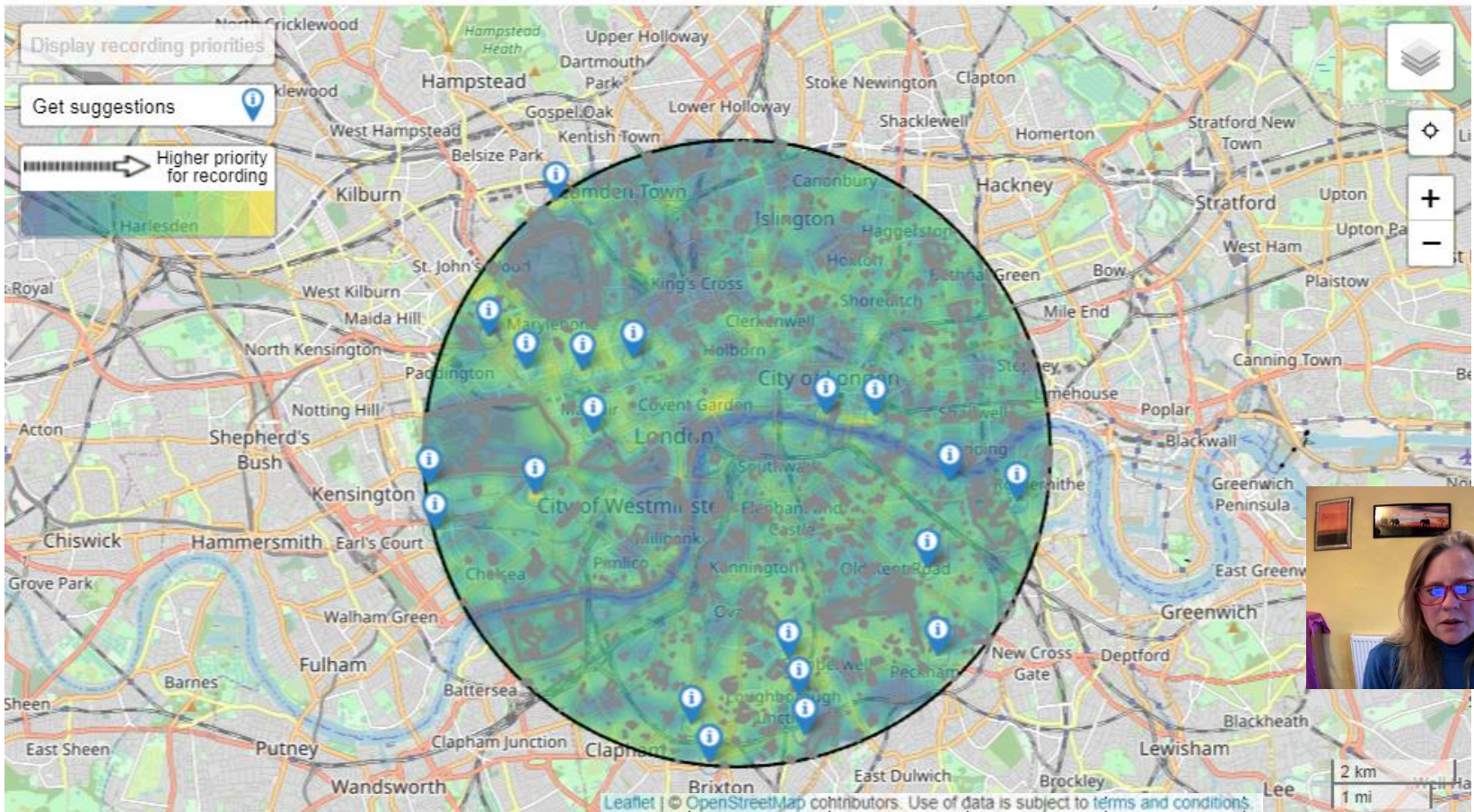
## NMRS and BNM data use – OPM Toolkit

Provides a common framework for developing a local risk-based approach to managing OPM







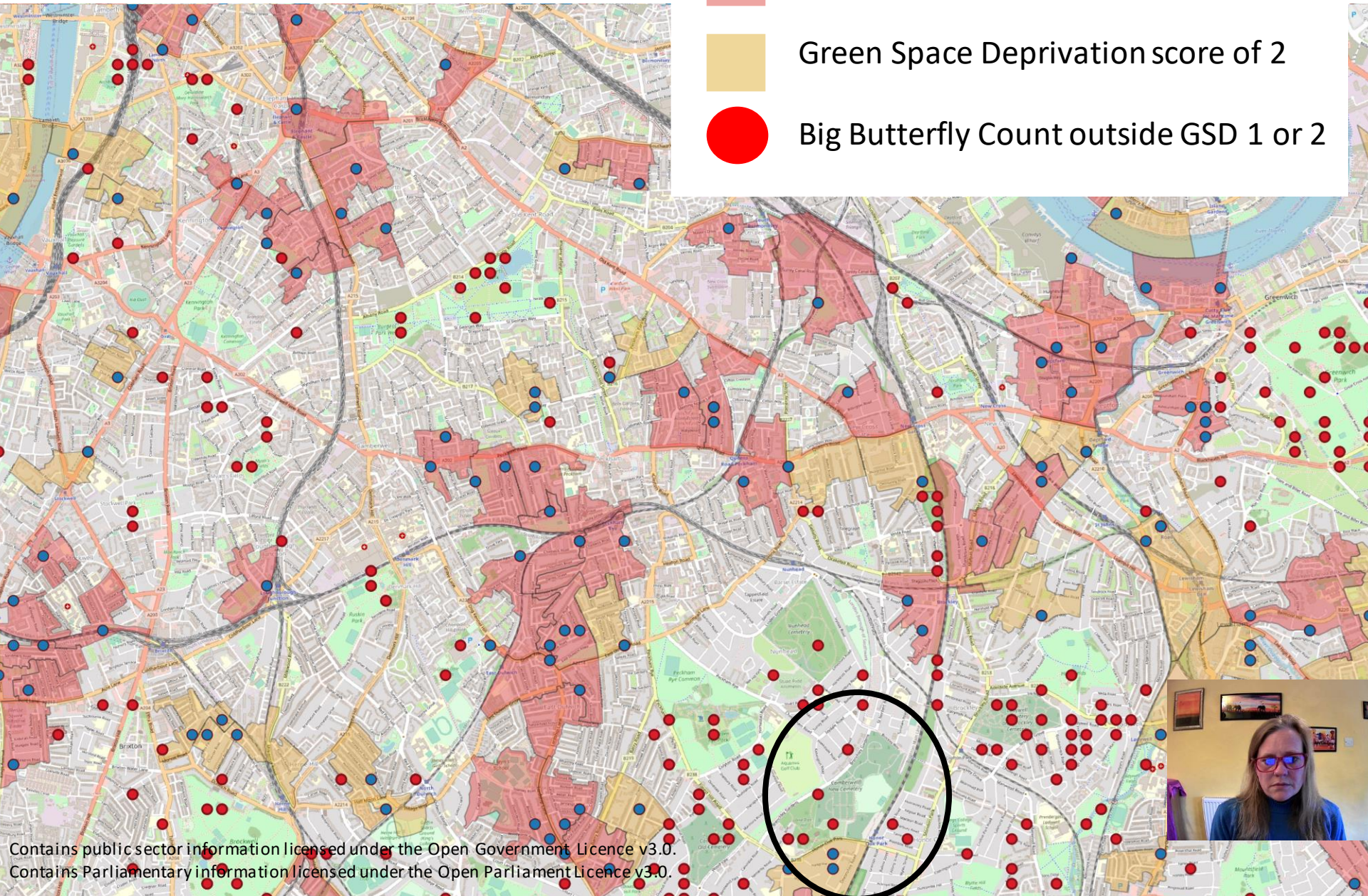
<https://opmhub.fera.co.uk/lepidoptera-biodiversity-map>

# DECIDE – a tool to improve recording coverage to improve Species Distribution Models



# 100,000 Wildspaces

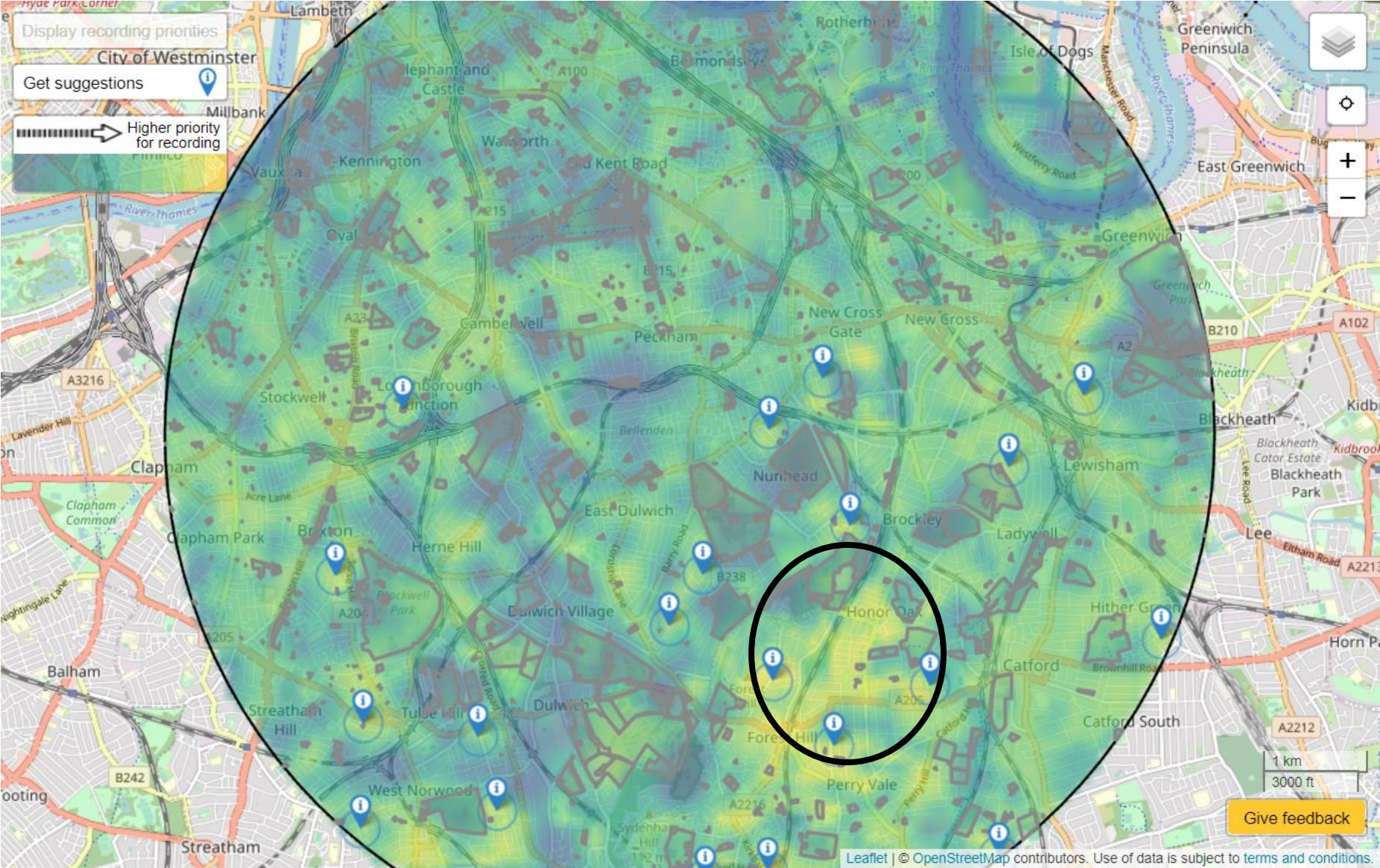
-  Big Butterfly Count within GSD 1 or 2
-  Green Space Deprivation score of 1
-  Green Space Deprivation score of 2
-  Big Butterfly Count outside GSD 1 or 2







# DECIDE





# NMRS and BNM outputs (and inputs)

Butterfly Conservation

Landscape-scale conservation for butterflies and moths  
Lessons from the UK

state of nature

SPECIES STATUS

THE ROYAL SOCIETY FOR THE PROTECTION OF BIRDS

The Butterfly Red List for Great Britain  
R. Fox, M. Warren and T. Brenton.

SPECIES STATUS No. 11





## NMRS and BNM data users

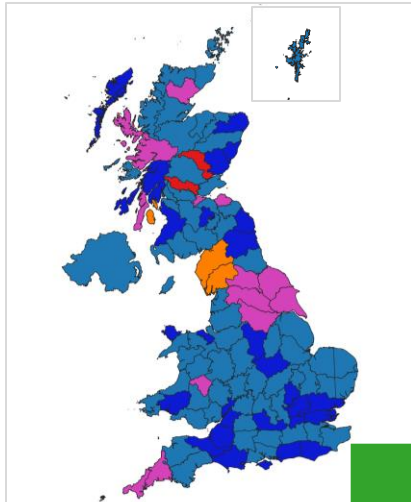




# NMRS and BNM scientific papers



# NMRS and BNM records inform all of BC's work



## A window to the world of global insect declines: Moth biodiversity trends are complex and heterogeneous

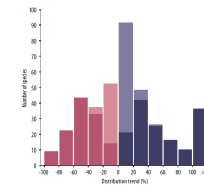
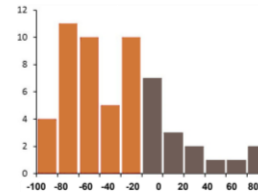
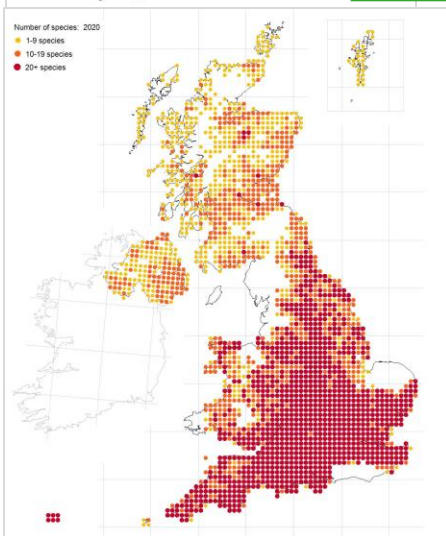
David L. Wagner<sup>1</sup>, Richard Fox<sup>2</sup>, Danielle M. Salcido<sup>3</sup>, and Lee A. Dyer<sup>4</sup>

*Conservation Biology*

*Contributed Paper*

**Using citizen science butterfly counts to predict species population trends**

Emily B. Dennis<sup>1,2</sup>, Byron J.T. Morgan,<sup>3</sup> Tom M. Brereton,<sup>2</sup> David B. Roy,<sup>2</sup> and Richard Fox<sup>4</sup>  
<sup>1</sup>School of Mathematics, Statistics and Actuarial Science, University of Kent, Canterbury, CT2 7RN, U.K.  
<sup>2</sup>Butterfly Conservation, Manor Yard, East Leithworth, Warrington, BB24 5QP, U.K.  
<sup>3</sup>Centre for Ecology & Hydrology, Research Laboratories, Mansel Park, Warrington, OX10 9BE, U.K.





The roles of County Recorder and their Verification Assistants are integral to this process and enable BC's to produce these outputs...

Thank you so much!

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