

London's butterflies: a hidden success story?

Simon Saville, Butterfly Conservation — FSC Virtual Meet-up, 7th May 2020



Large Skipper
SW9



**Butterfly
Conservation**

Saving butterflies, moths and our environment

A talk for lockdown

- Encourage people to visit green spaces near them and explore the wildlife that's there **
- Debunk some London myths
- Focus on Inner London
 - Wandsworth, Lambeth, Southwark
- *Relevant to all urban areas*

#NatureUnderOurNoses



** In line with Government guidelines

Contents

- Introduction
- Historical records
- Recent records - changes
- Three examples
 - White-letter Hairstreak
 - Marbled White
 - Brown Argus
- Other data
- Why?
- Recording
- Opportunities

Small
Tortoiseshell



Red Admiral



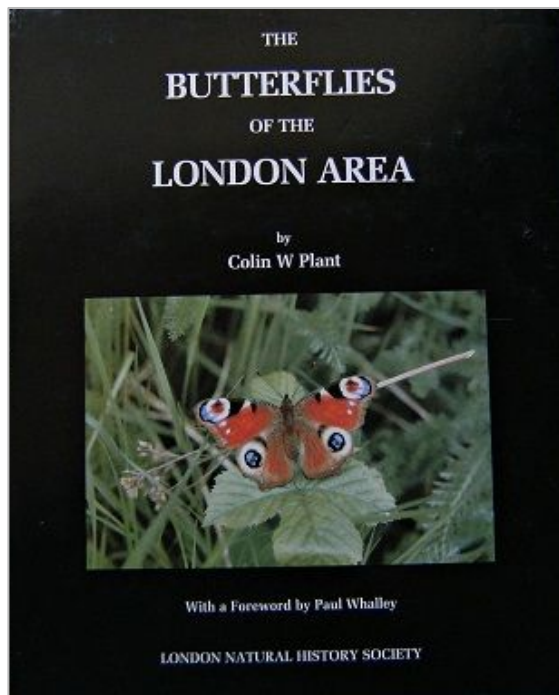
Acknowledgements and thanks

- Butterfly Conservation www.butterfly-conservation.org
 - Four volunteer branches across London
 - *Big City Butterflies* project application
- Volunteers
 - Recording, lobbying, training, work parties ...
- “Friends of” groups
- London Wildlife Trust
 - *Brilliant Butterflies* project, with BC and NHM
- London Boroughs
 - Especially the ecology officers
- London Natural History Society
 - Annual butterfly report; Atlas - in preparation



Common Blue (fem)

Historical records



CW Plant, 1987

Data from 1980-86 and pre-1980

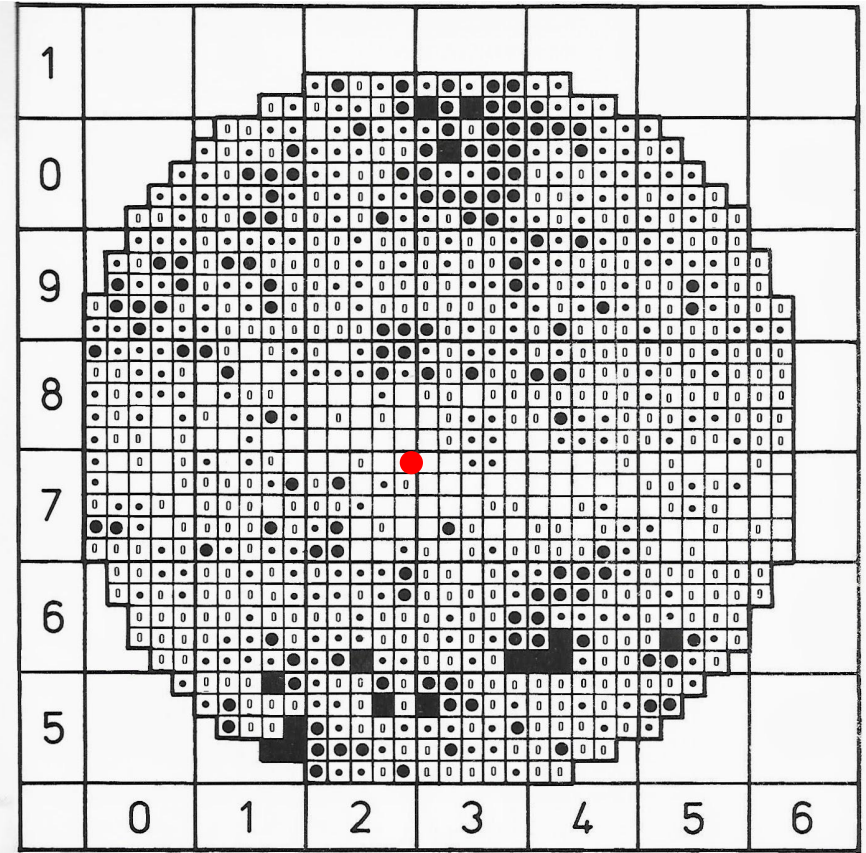
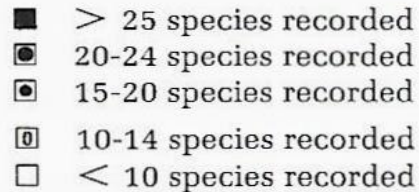
Foreword by Paul Whalley, NHM:

“... the number of species of butterfly has changed very little over the last 100 years, although undoubtedly their individual abundance has altered.”

Comparative distribution of butterflies in the tetrads of London, 1980-86

Source: CW Plant, 1987

● Westminster



Butterflies in inner London, 1980-86

22 generalist species

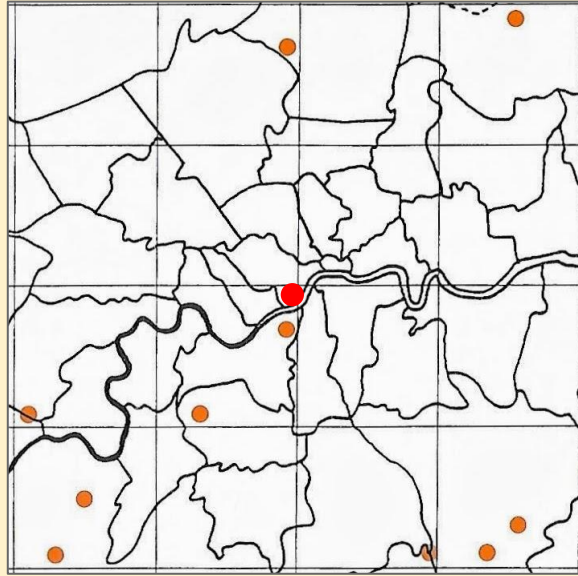
- Small, Essex & Large Skippers
- Clouded Yellow
- Brimstone, Orange-tip
- Large, Small & Green-veined Whites
- Small Copper, Common Blue, Holly Blue
- Red Admiral, Painted Lady, Comma
- Small Tortoiseshell, Peacock (*upper photo*)
- Speckled Wood, Wall, Gatekeeper (*lower photo*)
- Meadow Brown, Small Heath



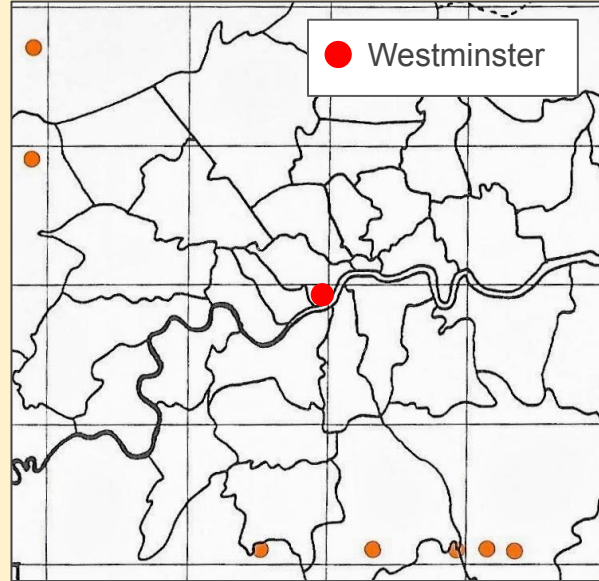
Source: CW Plant (1987), p21, Table 3

Butterfly records in central London, 1980-86

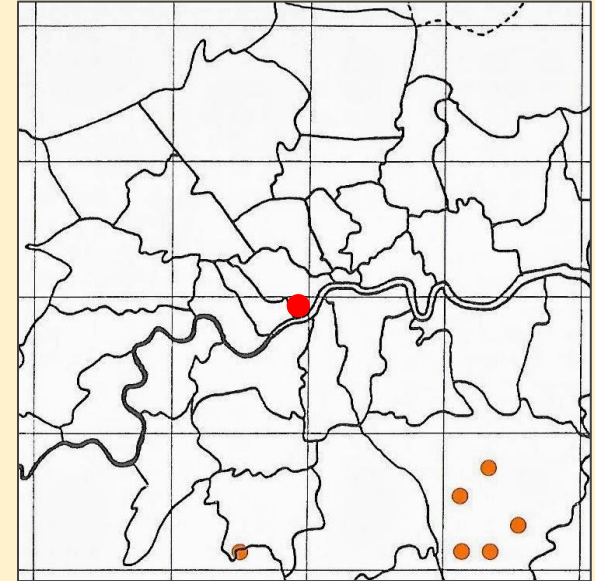
Source: CW Plant, 1987



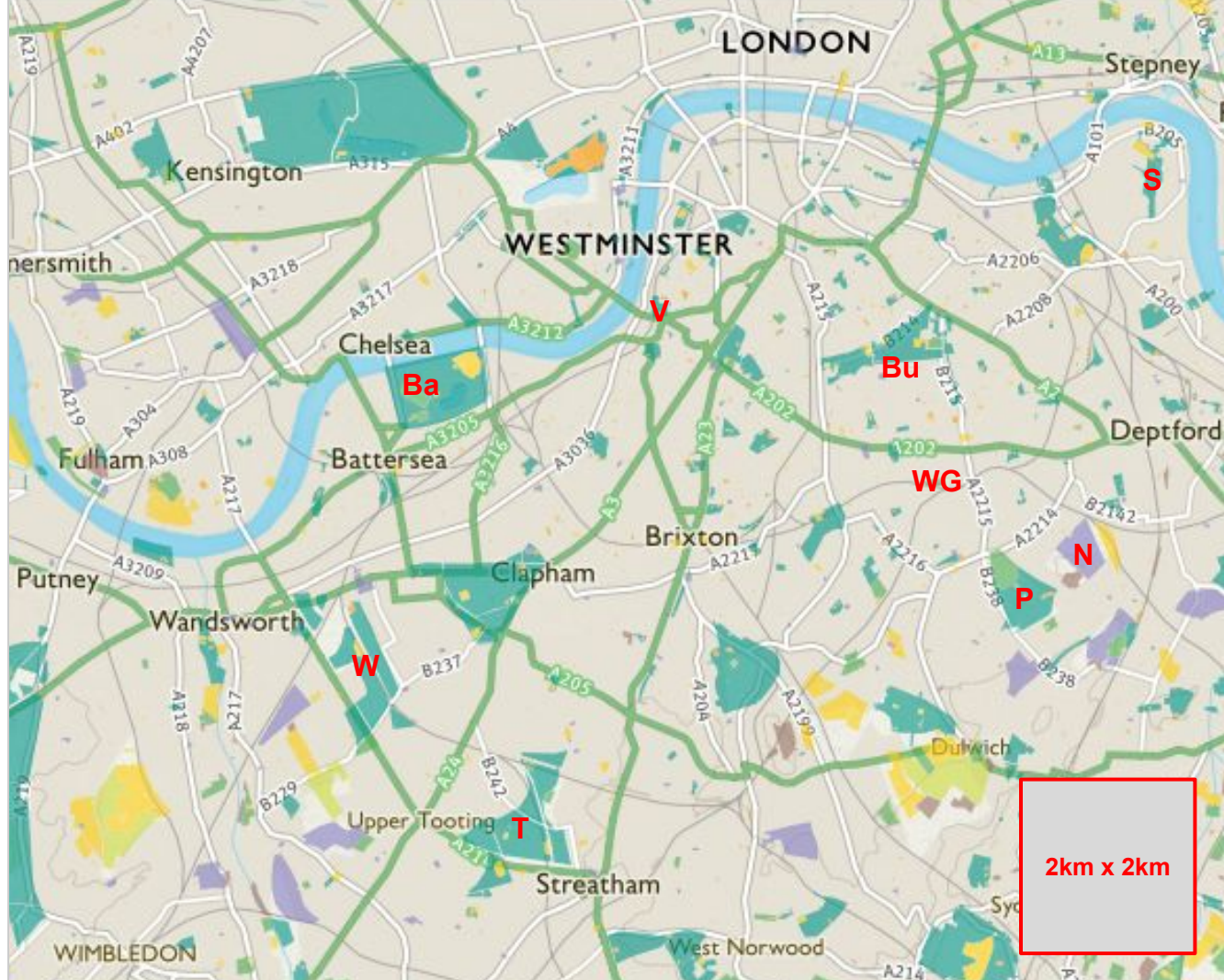
White-letter Hairstreak



Marbled White



Brown Argus



Green spaces (L to R)

W - Wandsworth Common

Ba - Battersea Park

T - Tooting Commons

V - Vauxhall Pleasure Gardens

Bu - Burgess Park

WG - Warwick Gardens

P - Peckham Rye Park

N - Nunhead Cemetery

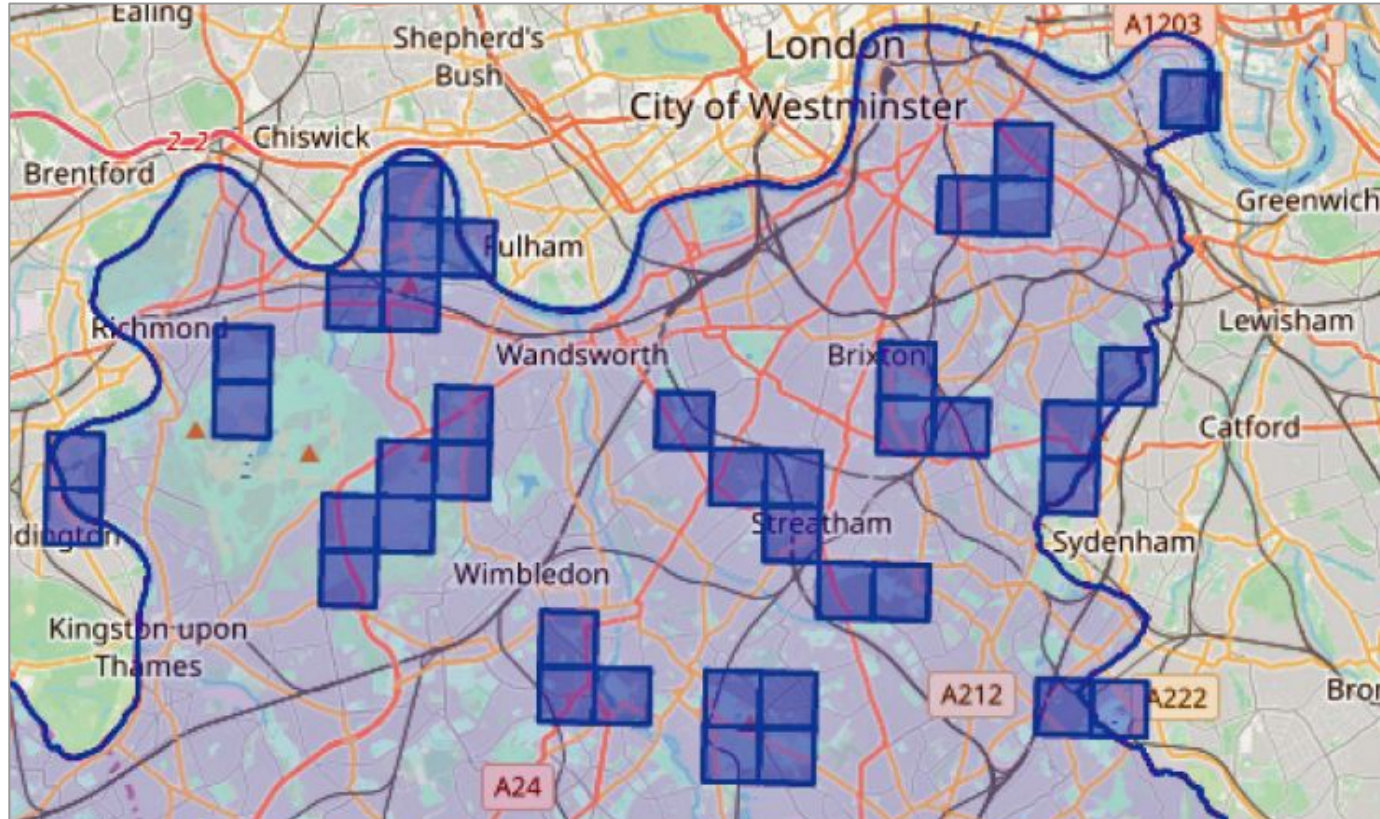
S - Stave Hill Ecology Park

Roughly 10km x 10km area

2km x 2km



Monads with transect monitoring, 2019



Butterflies in Inner London: *now ~ 30 species*

Gains

Brown Argus

Brown Hairstreak

Green Hairstreak

Marbled White

Purple Emperor

Purple Hairstreak

Ringlet (*photo left*)

Silver-washed Fritillary

Small Blue ?

White-letter Hairstreak

Lost

Wall



Purple Hairstreak egg
on oak buds (Nov 2017)



White-letter Hairstreak

Methodology*

- Elm tree locations sought from Borough Tree Officers
- “Ground-truth” in spring - location (gps), species, condition, visibility
- Check for adult butterflies in June-July
- Egg searches in winter
- Report results to Borough Ecology Officers



Conspicuous
when in fruit



* Thanks to Liz Goodyear & Andrew Middleton of the Herts & Middx Butterfly Conservation

White-letter Hairstreak - findings

- There are lots of elms in south London - many parks and cemeteries
- English Elm, Wych Elm, Huntingdon Elm ...
- Disease-resistant varieties being planted by Boroughs
- Many have WLH colonies, e.g. Tooting Commons



White-letter Hairstreak - now widespread

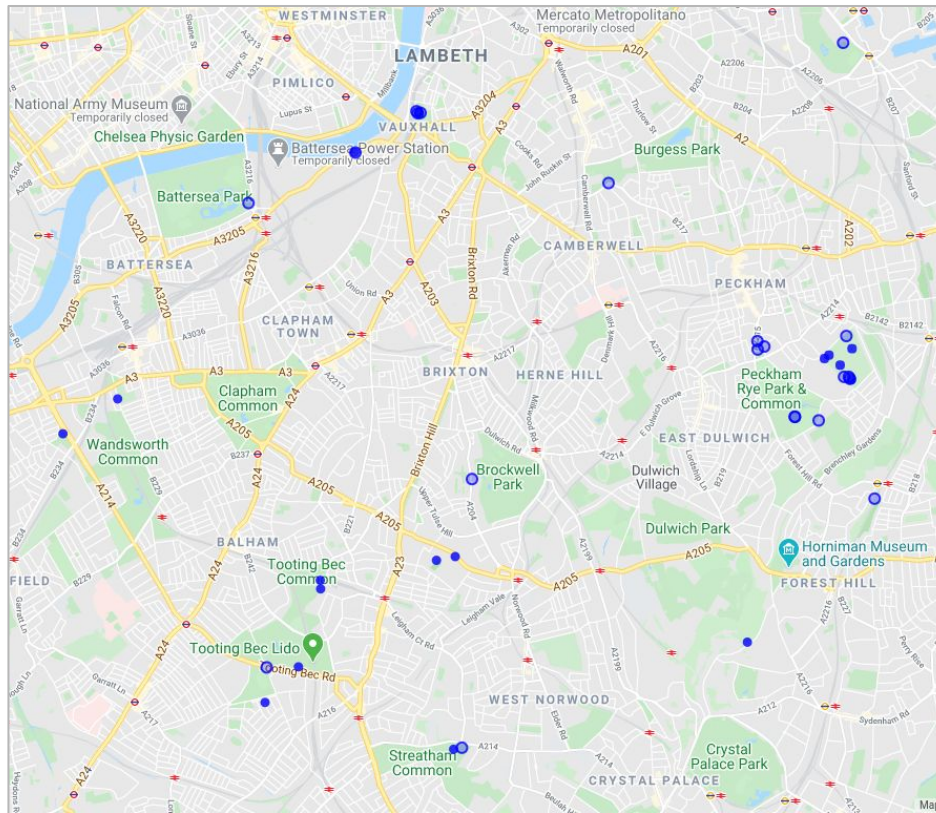


Nunhead Cemetery



White-letter Hairstreak
known distribution, 2016-18

White-letter Hairstreak - online records



Butterflies for the New Millennium (BNM) Online portal

- View your own records
- View all records
- Create filters
 - By species, location, date

www.butterflyrecording.org/

White-letter Hairstreak records
- SW London
- last 4 years



White-letter Hairstreaks in Vauxhall

Ulmus 'New Horizon' cultivar



Vauxhall Pleasure Gardens

Marbled White - extending its range



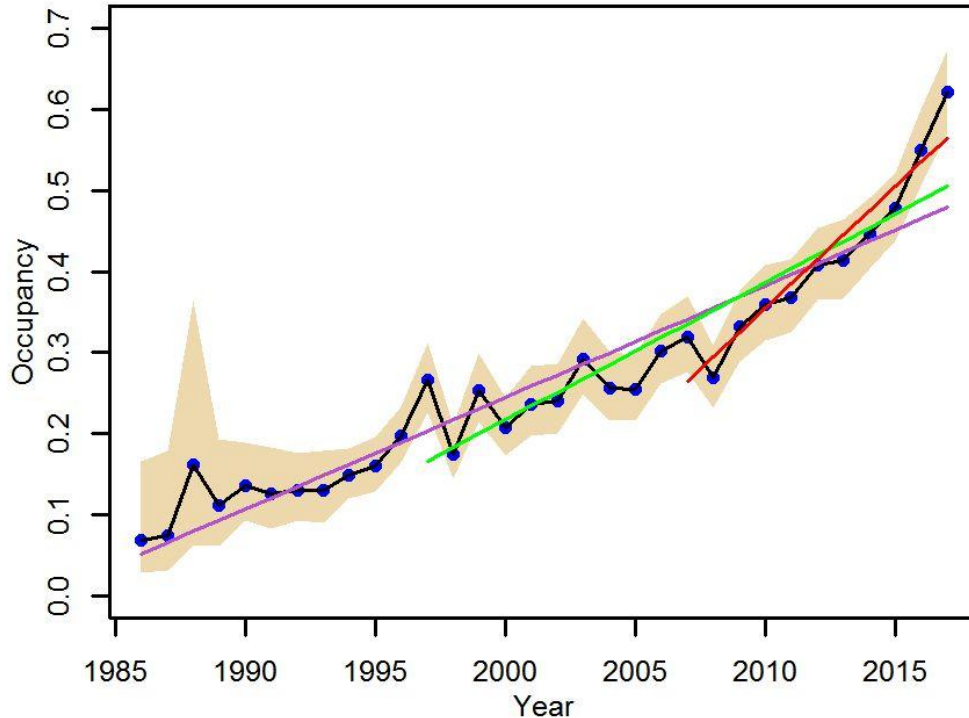
Left: female (browner)
Right: Male (blacker)

Spreading in south London
- in many parks in 2019

Likes tall, unimproved
grassland - caterpillars
feed on Red Fescue and
other grasses

	Jan				Feb				Mar				Apr				May				Jun				Jul				Aug				Sep				Oct				Nov				Dec			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Ovun																																																
Larva																																																
Pupa																																																
Inago																																																

Marbled White occupancy trend for VC17*



- A 30+ year expansion
- Now found in >65% of the tetrads of VC17
- See Surrey & SW London Branch “Annual Butterfly Reports” for recent years

<https://butterfly-conservation.org/in-your-area/surrey-and-sw-london-branch/maps-reports>

* VC17 = Surrey & SW London area

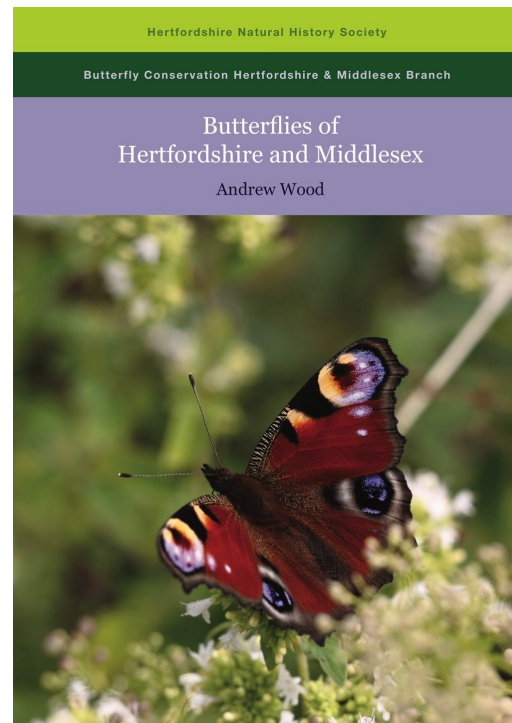
Brown Argus - extending its range

- Present in Burgess Park and Tooting Commons in 2019
- Historically a chalk downland specialist, feeding on Rockrose
- Now using Geranium spp, especially Dove's-foot Cranesbill



A similar story in north of the river

- See “Butterflies of Hertfordshire and Middlesex”
 - By Andrew Wood, published in 2016
 - <http://hnhs.org/publication/butterflies-hertfordshire-and-middlesex>
- For example
 - *“The Marbled White is a success story for our area ... benefitting from set-aside and conservation strips in dry grassland (with Red Fescue) ...”*
 - *“The Brown Argus has in recent years colonised much of western Middx ...”*
 - *“Recently, the Holly Blue was recorded in almost every Middx 2km x 2km square ...”*



Moths - now resident and spreading ...



Jersey Tiger



Tree-lichen Beauty
Toadflax Brocade



Gypsy Moth

Warwick Gardens - 1.5ha urban park in Peckham

- Six-year study by Penny Metal
- 555 species of insect and spider
 - Some rare, some new to the UK
 - See <https://insectinside.me>



Warwick Gardens - the diversity of a Peckham park

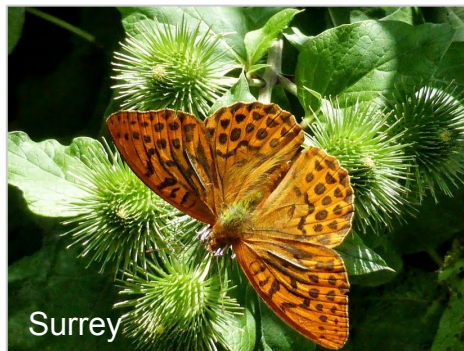


Summary (so far)

- Many butterflies appear to be spreading their range in London (not the Wall)
- More species present than 30+ years ago
- Indications that other taxa are also doing well
- Some specific reasons, e.g. elm regeneration, change of larval foodplant
- **What are the more general reasons?**



Orange Tip



Silver-washed Fritillary

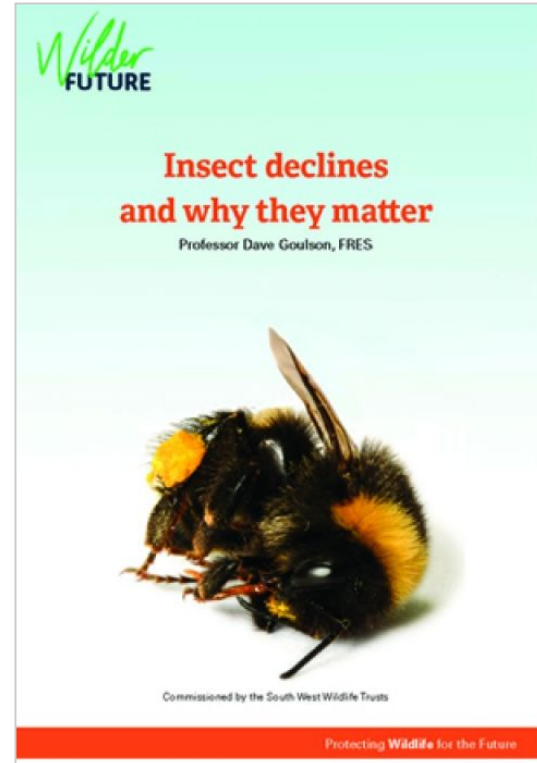


Comma

Insect armageddon

Caused by man-made stressors:

- Development and other changes of land use
 - Habitat loss, degradation and fragmentation
- Intensive agriculture
 - Pesticides, insecticides and herbicides, including neonicotinoids
 - Monocrop practices
- Climate heating



Report 2019

[www.wildlifetrusts.org/news/
insects-urgent-action-needed](http://www.wildlifetrusts.org/news/insects-urgent-action-needed)

London is good for wildlife

Despite development pressures, London is a benign environment for wildlife

- Green
- Stable green spaces - parks, cemeteries, gardens, brownfield sites, ...
 - Many managed by boroughs and Royal Parks
- Transport corridors - rail, road, waterways
- Low (and reducing?) chemical use in parks
- More sensitive management of parks
 - Wildlife areas, planting palette, mowing regimes
- Urban heat island effect
- Development controls
 - Biodiversity Net Gain and Urban Greening Factor



Essex Skipper

Green London

- 47% green
- 22% is Green Belt
- 3.8m gardens (24%)
- 1,500+ SINC[‡]s (20%)
- 143 LNRs
- 3 NNRs^{‡‡}
- 15,000+ species

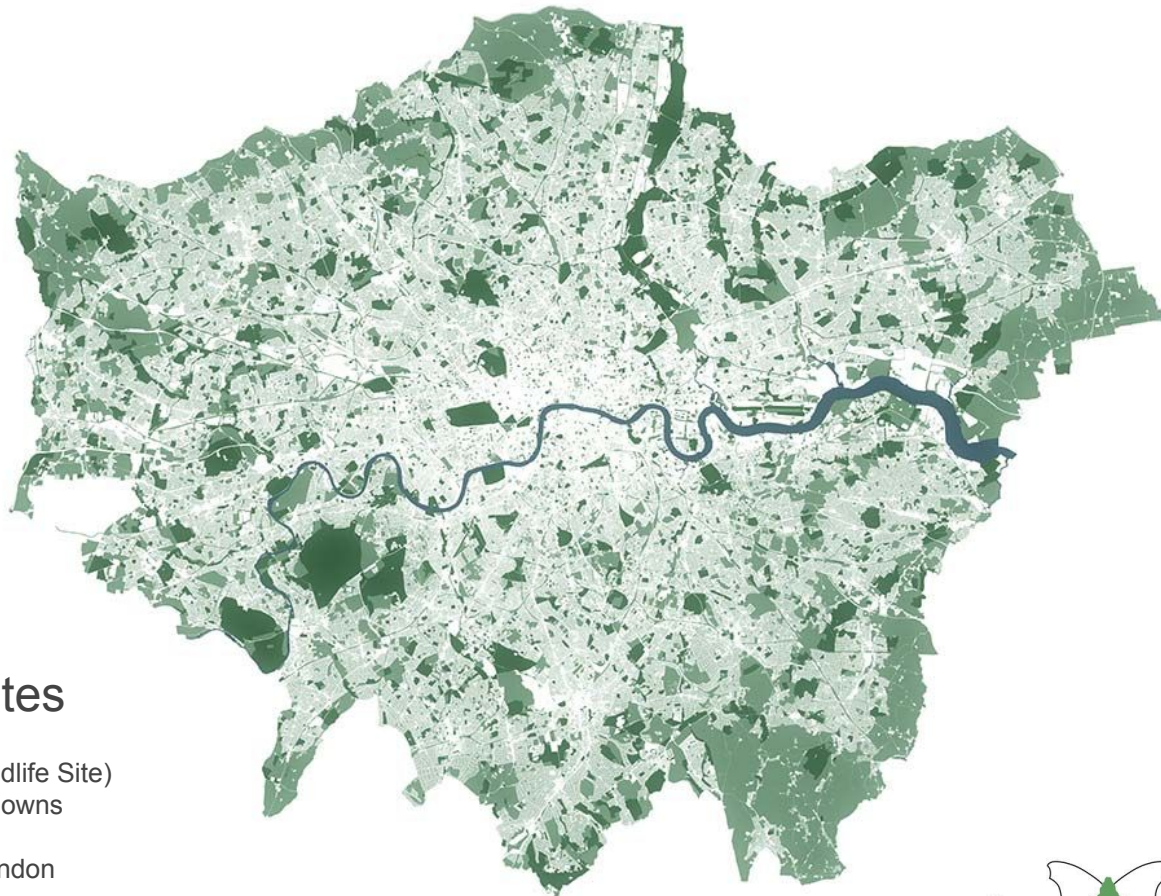
... Not forgetting brownfield sites

[‡] Site of Importance for Nature Conservation (Local Wildlife Site)

^{‡‡} Richmond Park, Ruislip Woods and South London Downs

Source: GiGL - Greenspace Information for Greater London

www.gigl.org.uk



More sensitive management of parks



Burgess Park, 2017



Burgess Park, 2019

Creating flower-rich grasslands

- The best grasslands are on the poorest soils
 - Lots of plants can compete for the limited nutrients
 - Coarse grasses and weeds can't dominate
- Low-fertility meadows require less maintenance
 - Infrequent mowing or grazing -> cost savings



Burgess Park

The first - *and essential* - step is to reduce soil fertility

- Either remove the topsoil: create “scrapes”
- Or cut-and-collect mowing
 - Let grass grow to 12". Cut and remove arisings. Repeat ...
 - Less to cut each time: the nutrients are in the leaves and are removed

Seed using a native flower mix

See <https://butterfly-conservation.org/our-work/conservation-projects/building-sites-for-butterflies>

Tooting Common - acid grassland restoration

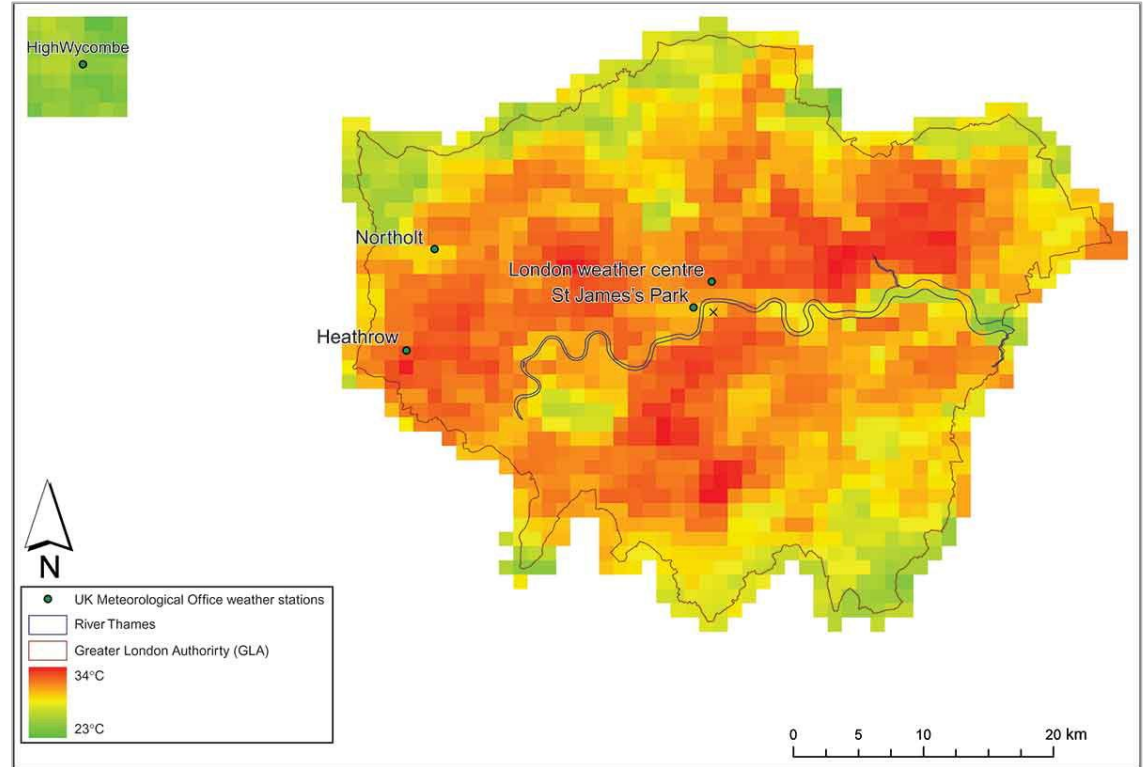
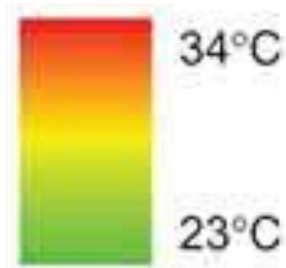


Tooting Common
Heritage Project,
2016-2019



London's Urban Heat Island

Estimated surface
temperature,
8 Aug 2003,
14:04 (GMT)



Source: <https://blogs.ncl.ac.uk/ceser/2013/01/02/new-analysis-of-londons-urban-heat-island/>

Big City Butterflies - project



- Inspire Londoners to discover butterflies and moths: connect them with nature and their local green spaces
 - Enhance and connect London's green spaces to better support wildlife
 - Encourage people to identify and record the species they see
 - Create opportunities for local communities to connect with our project
- 1-year Development Phase completed
- Application for 4-year project later in 2020

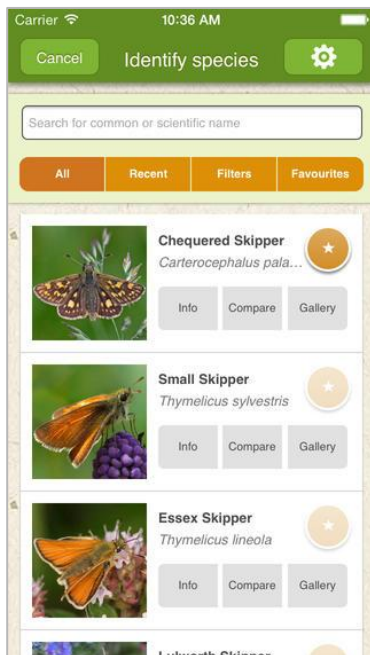


<https://butterfly-conservation.org/our-work/conservation-projects/england/big-city-butterflies>



Resources online

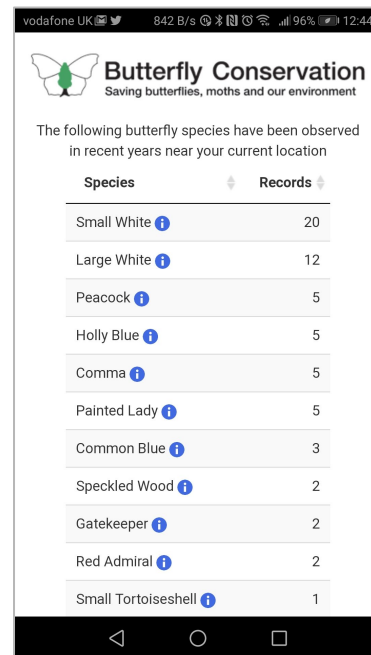
iRecord app - from the app store



Provides a list of the species seen in your local area (2km x 2km grid square), from records in the BNM database

https://shiny-apps.ceh.ac.uk/butterflies_near_me/

Butterflies near me



Opportunities

- Explore local green spaces **
- Submit sightings online (recording)
- Engage with land owners / managers
- Wildflower meadows - mowing regimes
 - [Building Sites for Butterflies](#) project (BC)
 - [Plantlife](#) road verges campaign
- Lockdown bonus - managed neglect ⇨

“Build it and they will come”

** In line with Government guidelines



Thank you!

#NatureUnderOurNoses

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www.butterfly-conservation.org

www.butterfly-conservation.org/surrey

Small Skipper
Burgess Park

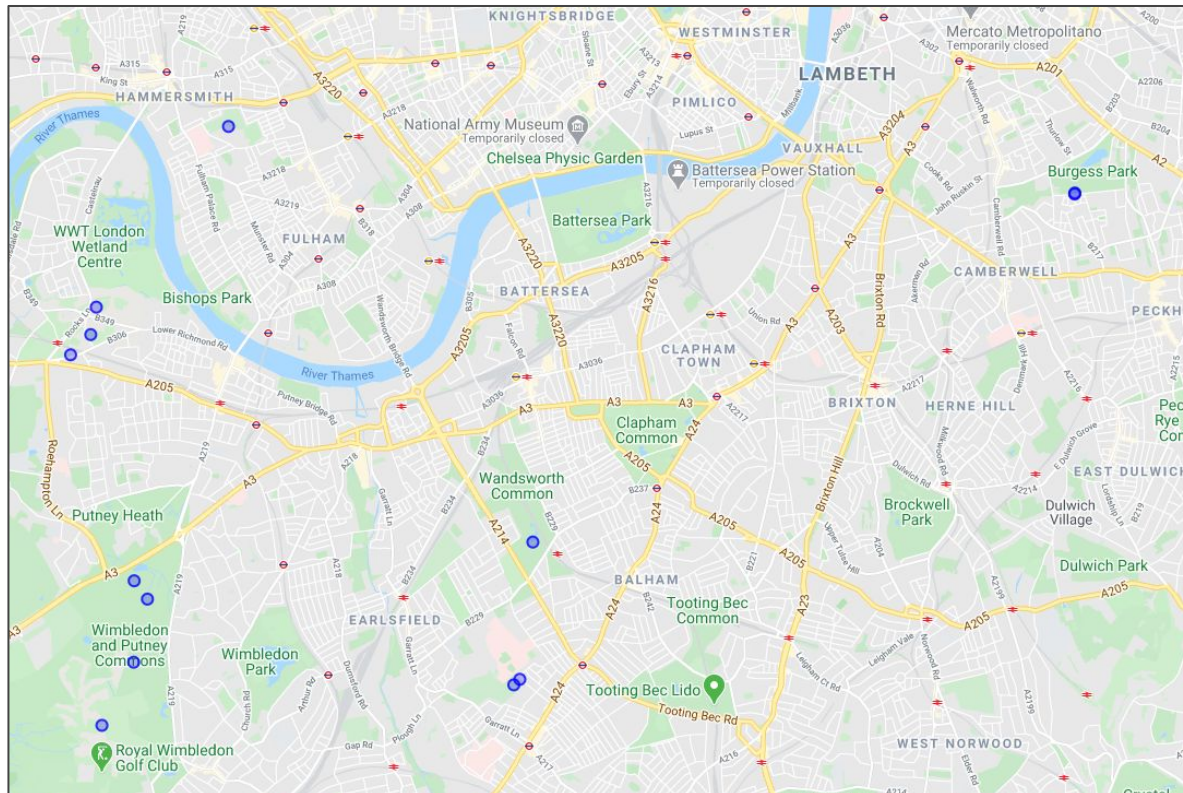


Butterfly
Conservation

Saving butterflies, moths and our environment



Marbled White - online records

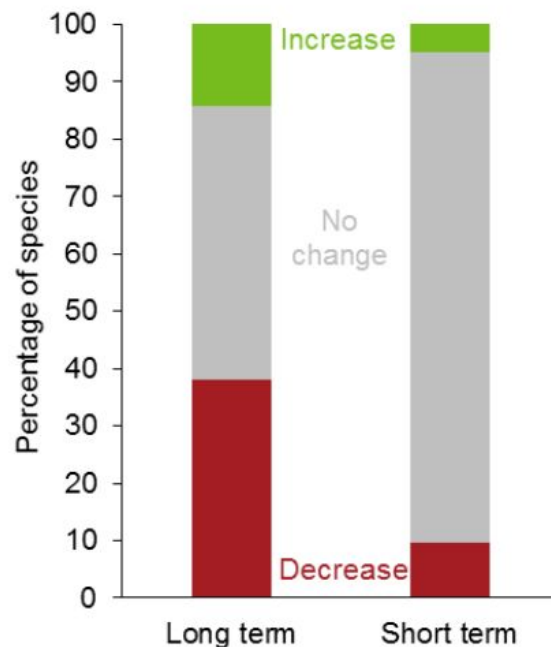
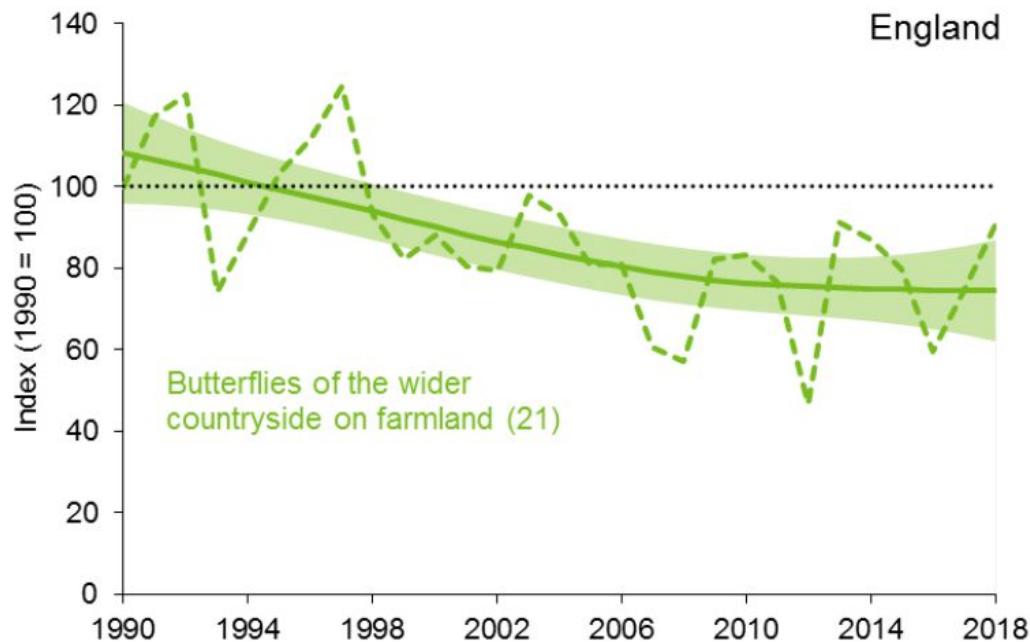


Marbled White

- SW London
- Last 3 years

www.butterflyrecording.org/

Wider countryside butterfly species - decline

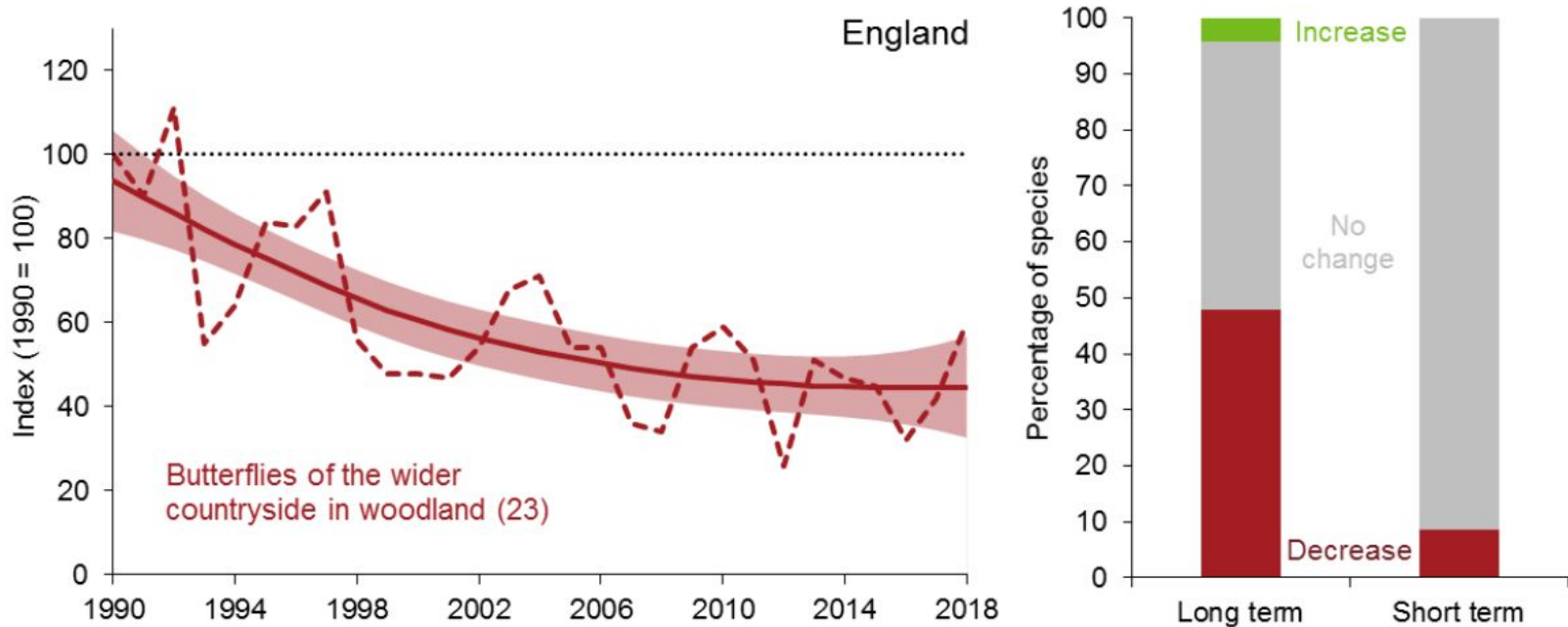


Source: Butterflies in England: species of the wider countryside on farmland and in woodland, 1990 to 2018

<https://www.gov.uk/government/statistics/butterflies-in-the-wider-countryside-england>



Wider countryside species - woodland (n = 23)



Source: Butterflies in England: species of the wider countryside on farmland and in woodland, 1990 to 2018

<https://www.gov.uk/government/statistics/butterflies-in-the-wider-countryside-england>