Contribution of citizen science towards biodiversity monitoring

Helen Roy
(and about 19 000 others)

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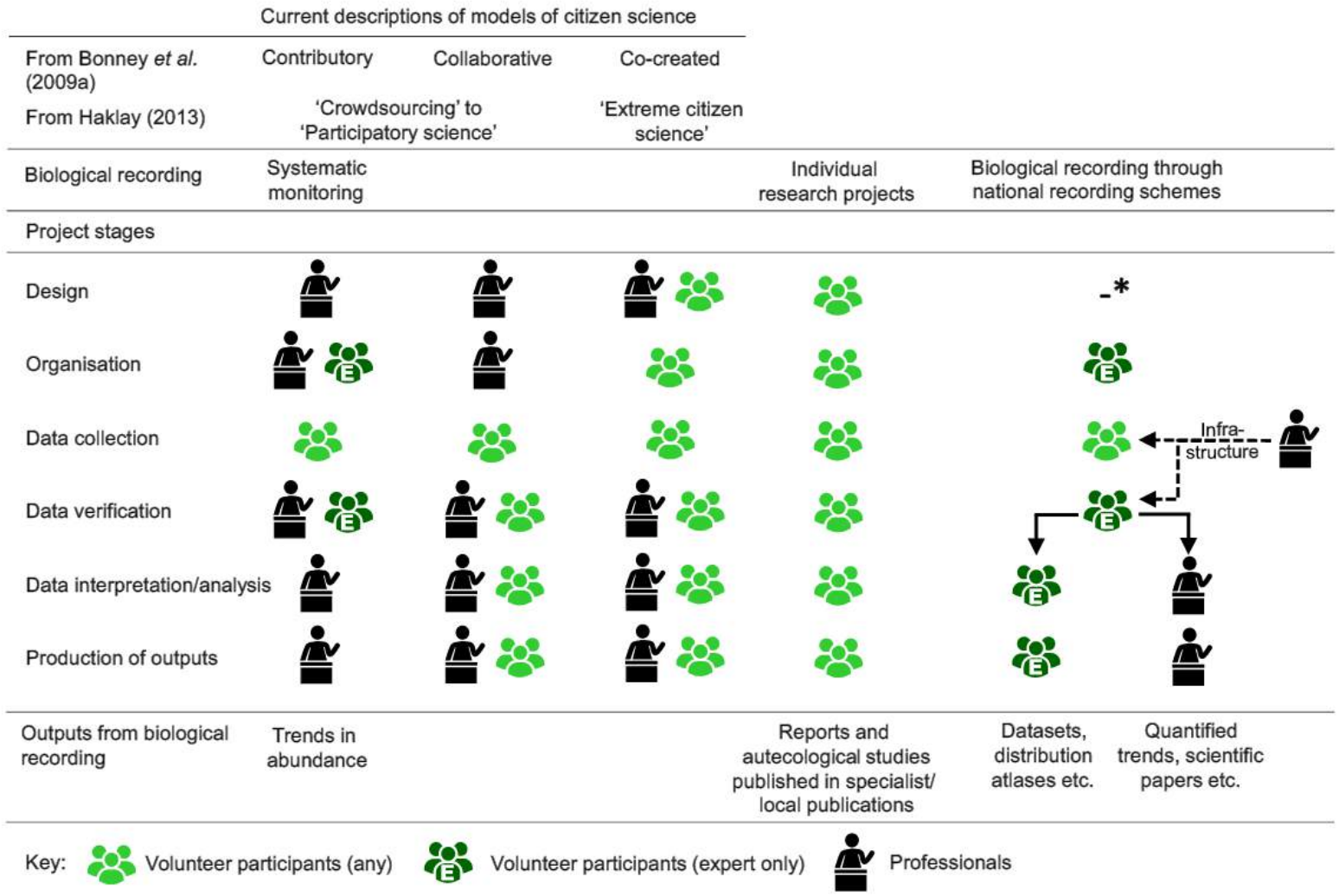
Defining citizen science…



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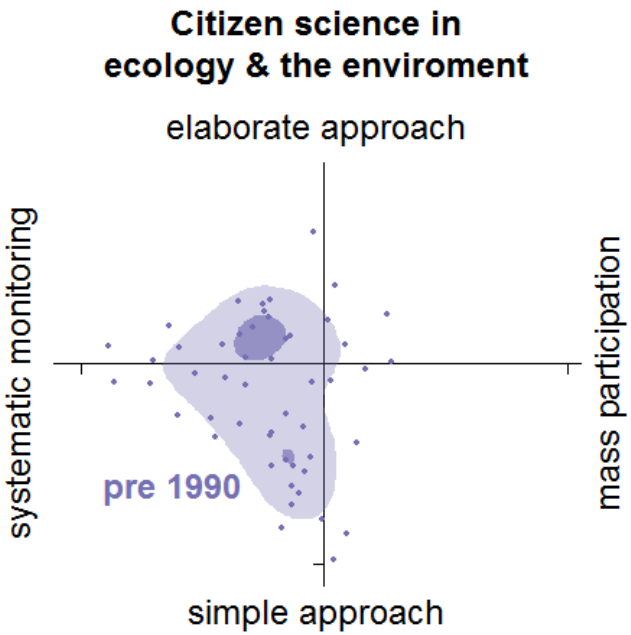
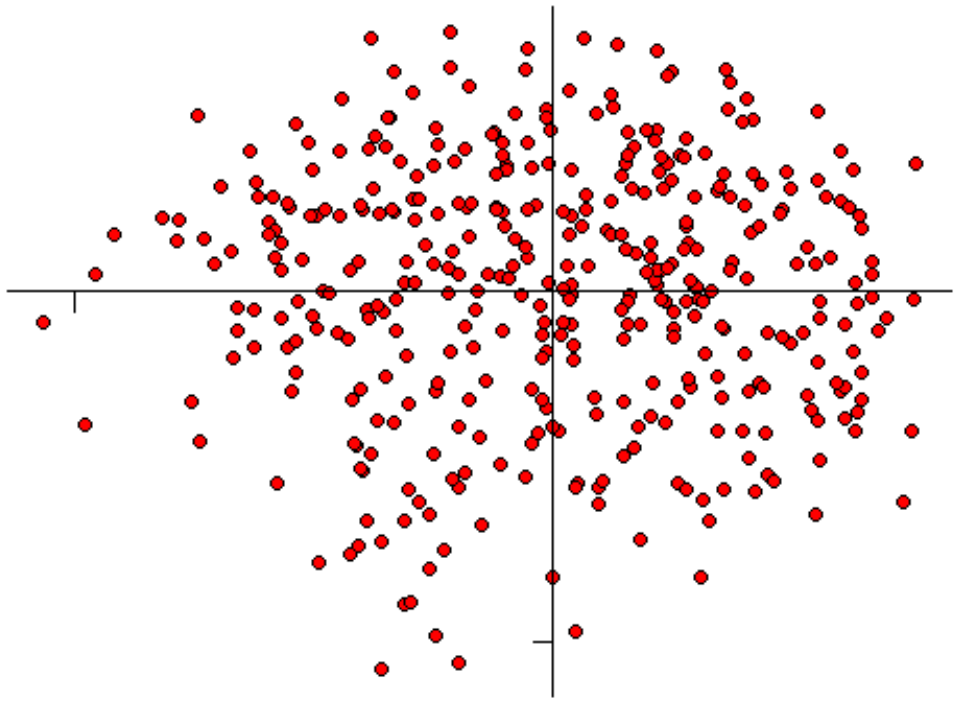
The landscape of citizen science





No clustering;
there are no discrete 'types' of projects

Wonderful life of citizen science

Biodiversity indicators → Department for Environment Food & Rural Affairs

Legislative monitoring → United States Environmental Protection Agency

Hypothesis-led science

EvolutionMegaLab

Conker Tree Science

'Elaborate'

'Scientific sampling'

'Mass participation'

'Elemental'

BRC Biological Records Centre

PlantTracker

Biological Records Centre

BRC Biological Records Centre

Home | Recording | Research | Resources | Links | Staff | Contact

Contribute butterfly records with iRecord

Key themes

- Recording Schemes
- Atlases
- Datasets
- Red Listing and Indicators

Butterfly Conservation | The Marine Biological Association | The Mammal Society | Botanical Society of the British Isles | BDS British Dragonfly Society | amphibian and reptile conservation | British Bryological Society | Conchological Society of Great Britain & Ireland

A booklet reviewing the first 50 years of BRC can be download here.

BRC is supported by the Joint Nature Conservation Committee and the Centre for Ecology & Hydrology within the Natural Environment Research Council.

The work of BRC is a major component of the National Biodiversity Network.

mobile app

Improving Plant Monitoring

more

- Citizen Science
- History of Recording
- Developing BRC
- Partnerships

Follow @___BRC___

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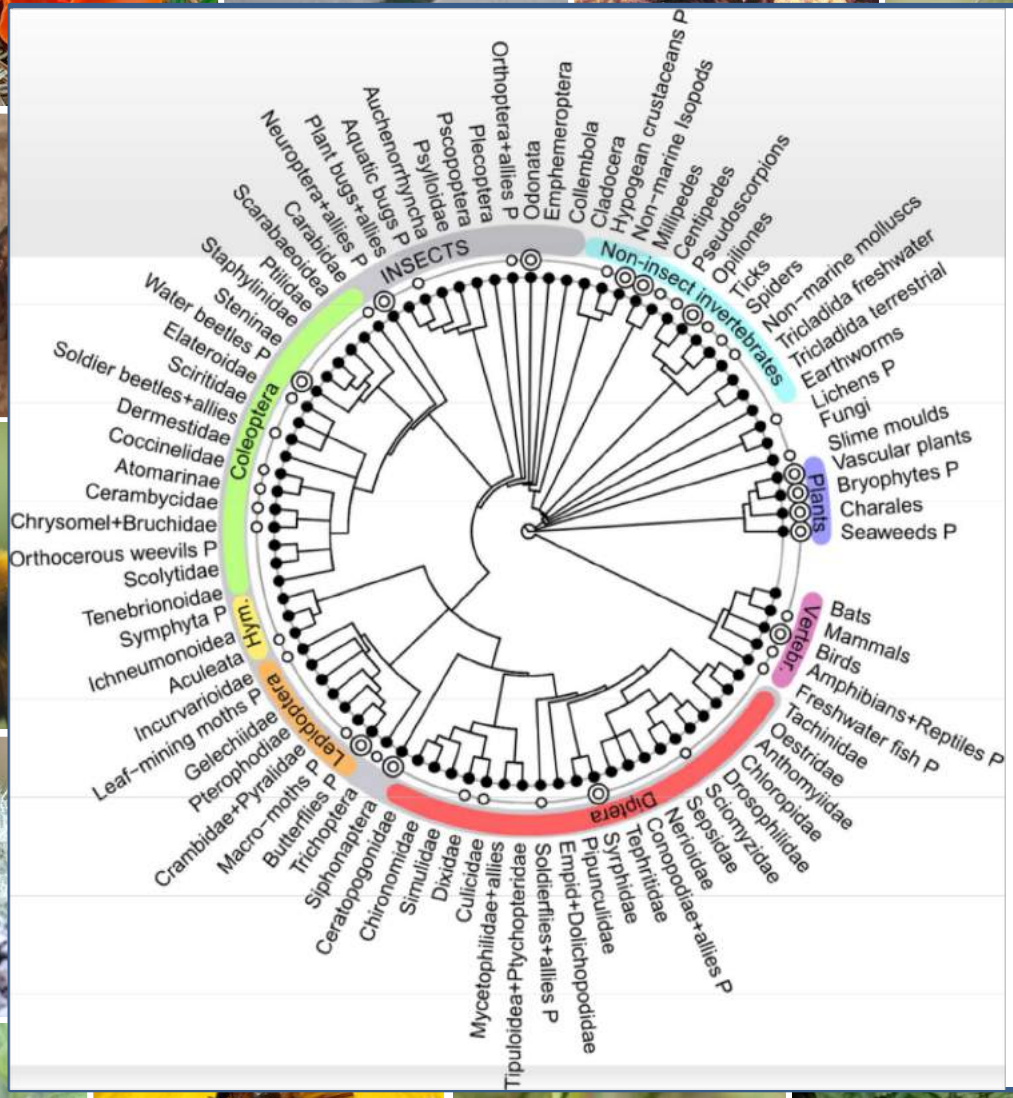
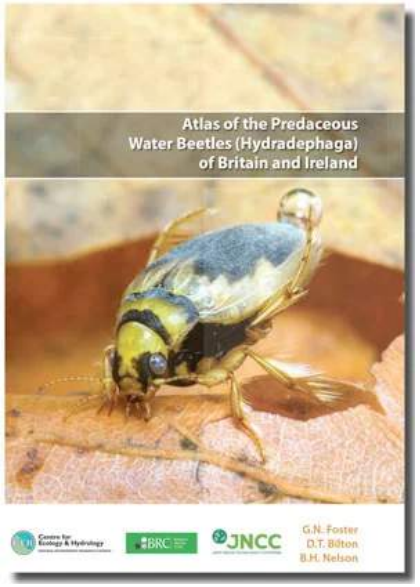
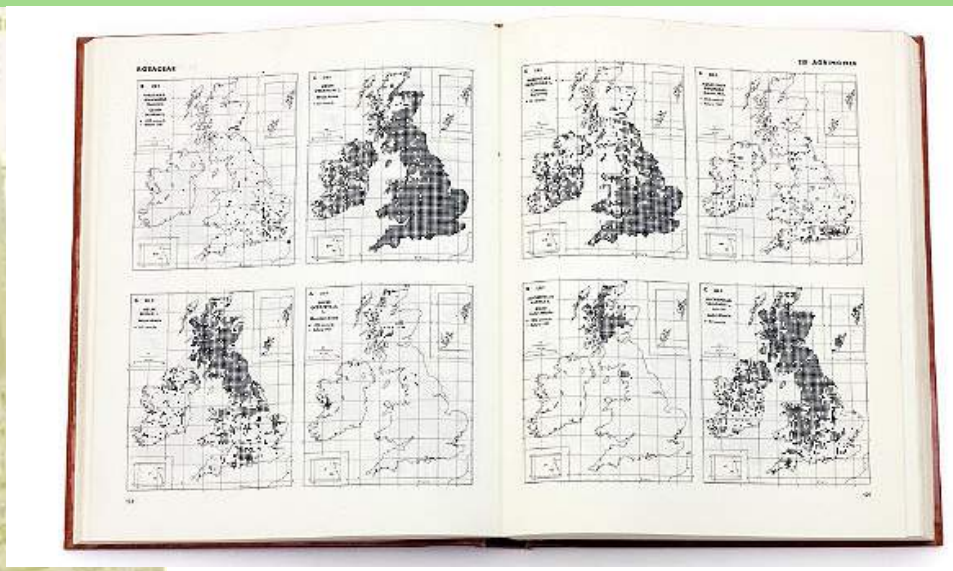


Tree of national recording schemes

- *Atlas published*
- ◎ *Repeat atlas*

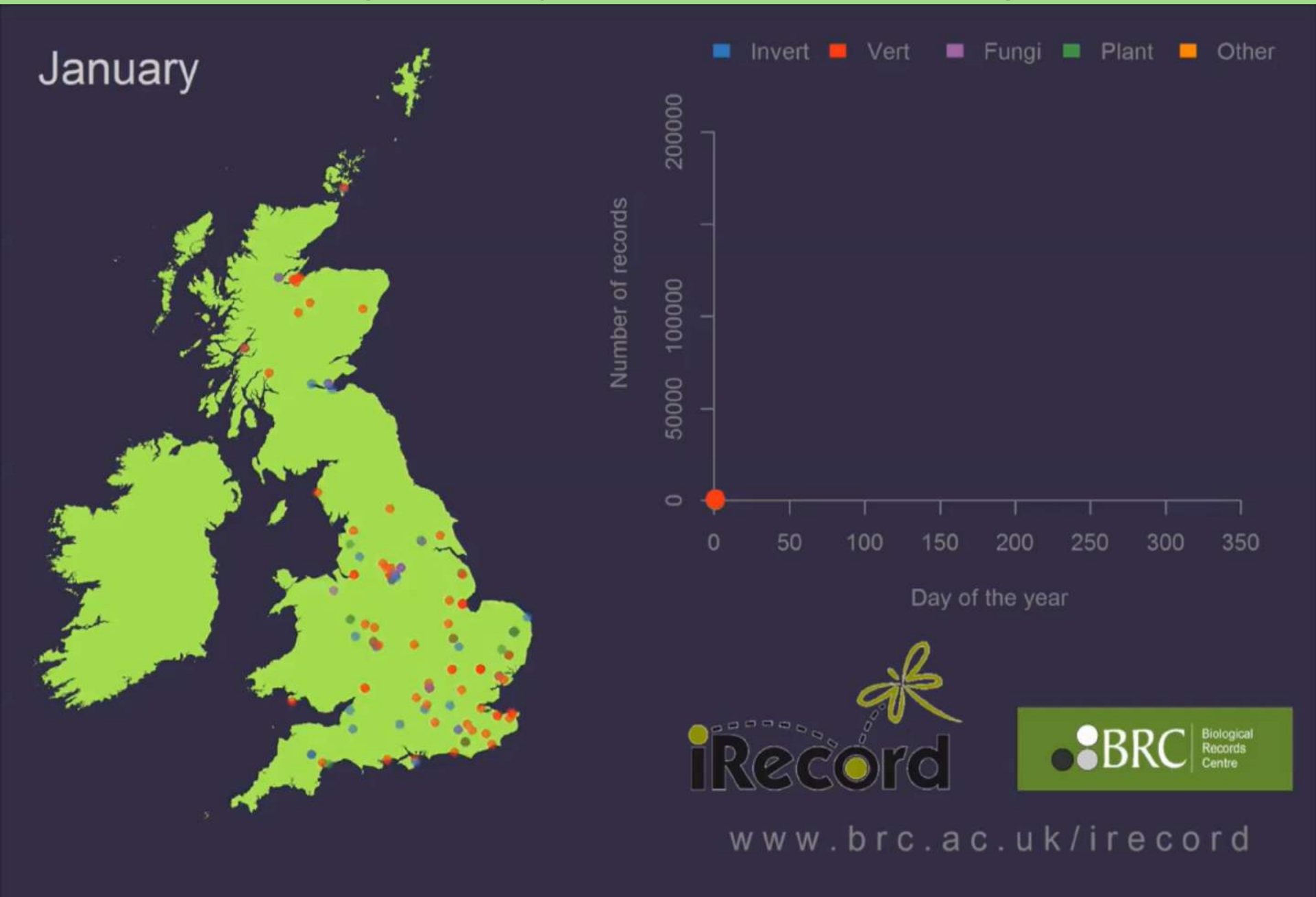


Celebrating centuries of recording wildlife

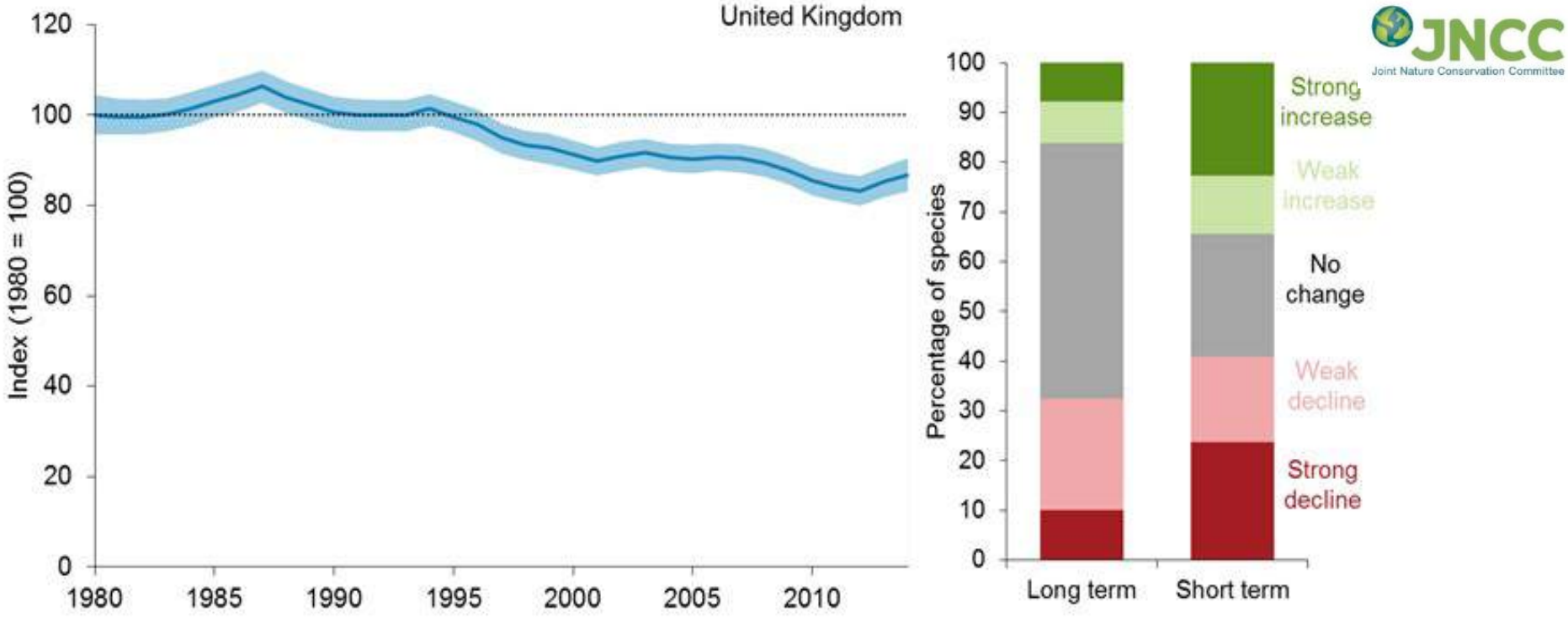


Every record counts - download a FREE app:
https://www.ceh.ac.uk/citizen-science-apps

Celebrating one year of recording wildlife



Informing policy…



Average relative change in distribution of **389 species of wild bee and hoverfly** using 1km occurrence records

- Does the Indicator reflect changes in **abundance** of different groups?
- Can we improve these trend estimates with structured surveys?

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Isaac et al (2014) Methods in Ecology and Evolution

Powney et al (2017) UK Biodiversity Indicators 2017: D1c pollinating insects. JNCC/ CEH.

…underpinning strategy

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Bumblebee Conservation Trust
Butterfly Conservation
BTO Hymettus
UNIVERSITY OF LEEDS
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Pollinator Monitoring Scheme: Flower-Insect Timed Count

Many wild and cultivated plants depend on insects to pollinate their flowers, with successful pollination leading to successful seed or fruit production. There are concerns that numbers of pollinating insects such as bees and flies may be declining, but we need more data to be able to track any changes in abundance across the country. The Flower-Insect Timed Count (FIT Count) is designed to collect new data on the numbers of flower-visiting insects, as part of a wider set of studies for a national Pollinator Monitoring Scheme (PoMS).

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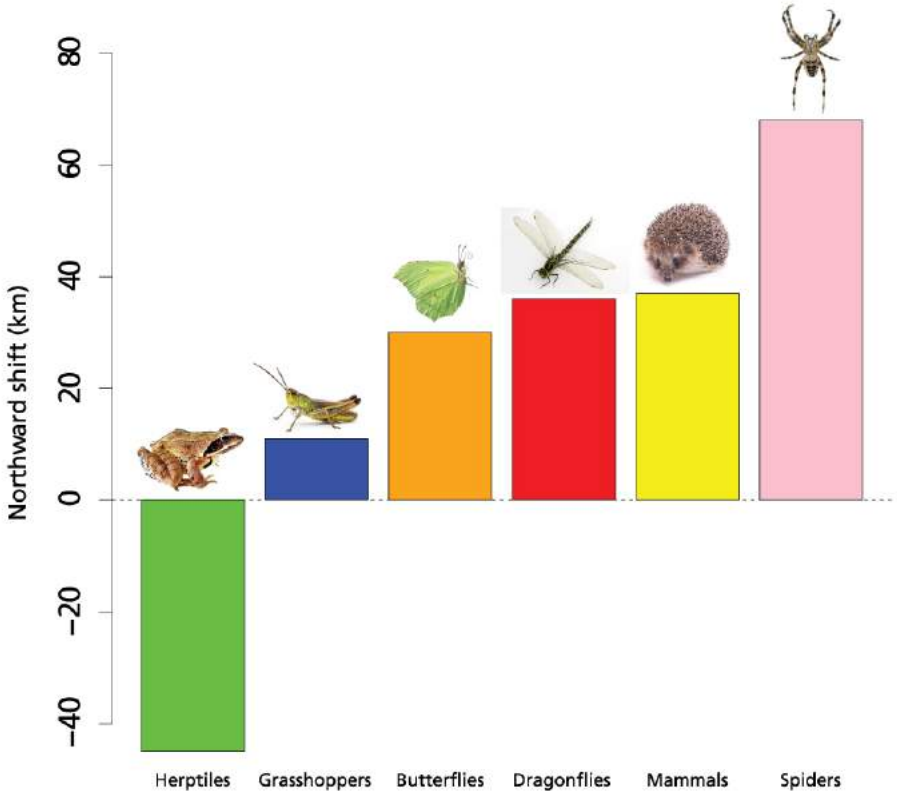
Non-native species surveillance

Informing conservation…

Climate change and wildlife…



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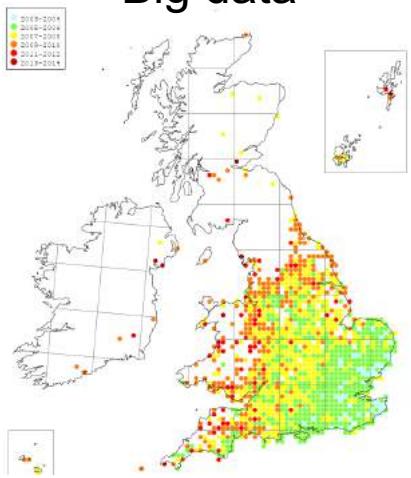
New discoveries on your doorstep…

Scymnus interruptus

First county record for Oxfordshire
(May 2013)

The joy of wildlife recording

Big data



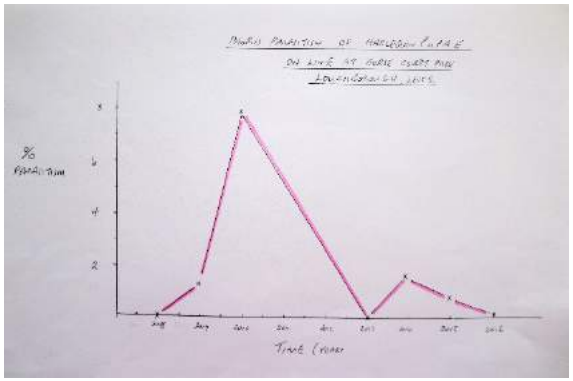
Engaging

Inspiring

Fun and creative

Captivating

Collaborative



…a ladybird perspective


UK Ladybird Survey
www.ladybird-survey.org

Sharing excitement @UKLadybirds

You Retweeted

St Marys CIW School @StMarysCIW · Jun 20

Replying to @UKLadybirds @Natures_Voice @GwentWildlife

What do ladybirds drink?

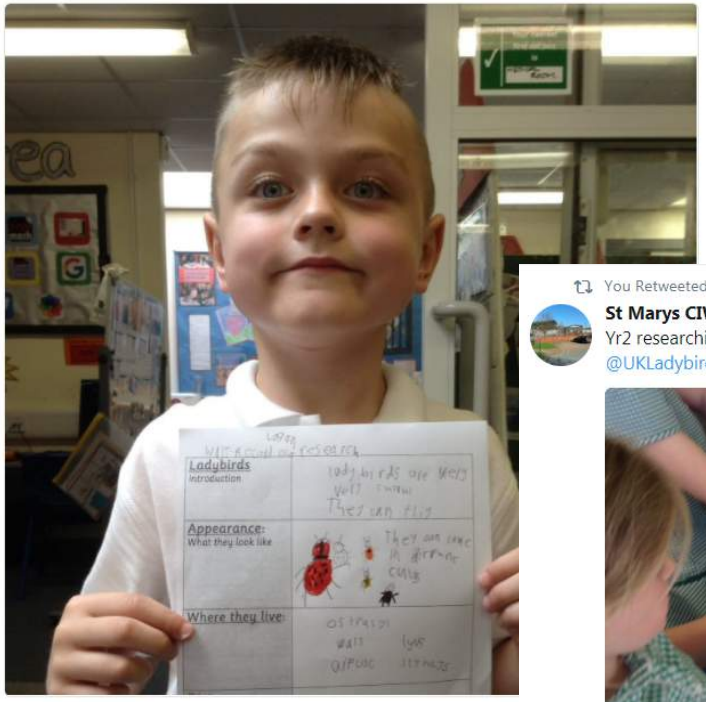
1 1

You Retweeted

St Marys CIW School @StMarysCIW · Jun 20

Replying to @UKLadybirds

What are ladybirds favourite things to eat?



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You Retweeted

St Marys CIW School @StMarysCIW · Jun 20

Yr2 researching Ladybirds ready to write a report & find them outside @UKLadybirds @Natures_Voice @GwentWildlife

1 2 3

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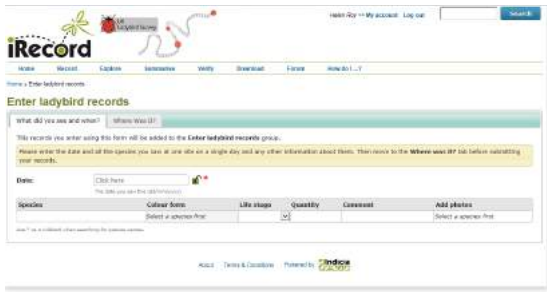
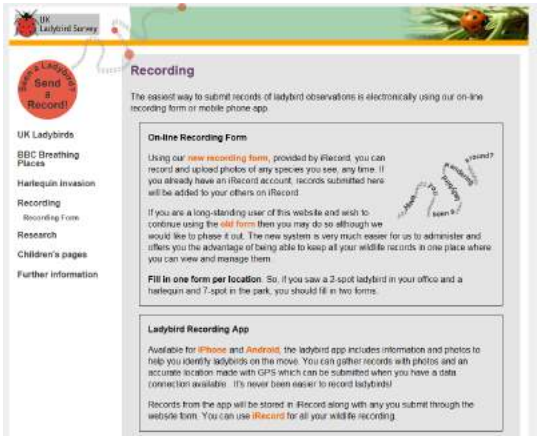
…everywhere

Contributing records UK Ladybird Survey

iRecord

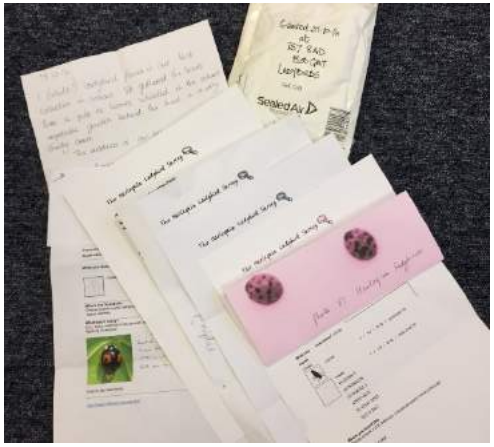


Website

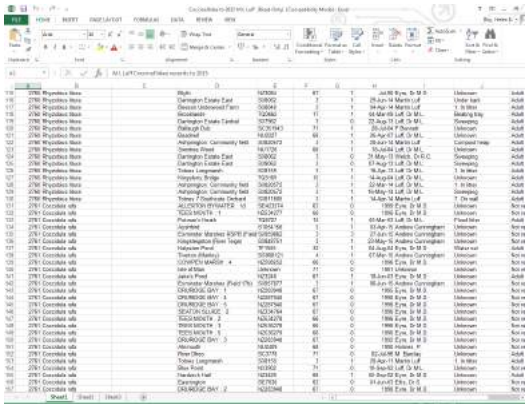


Smartphone app

Post



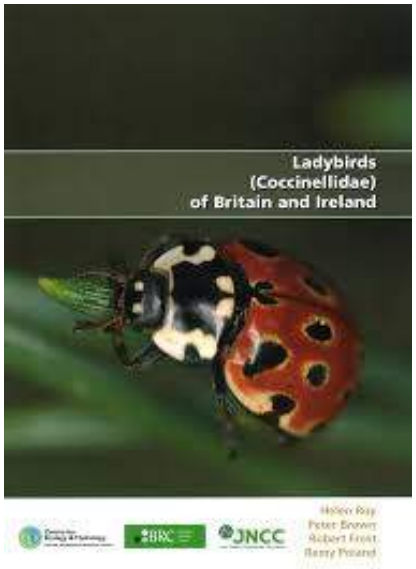
Spreadsheets

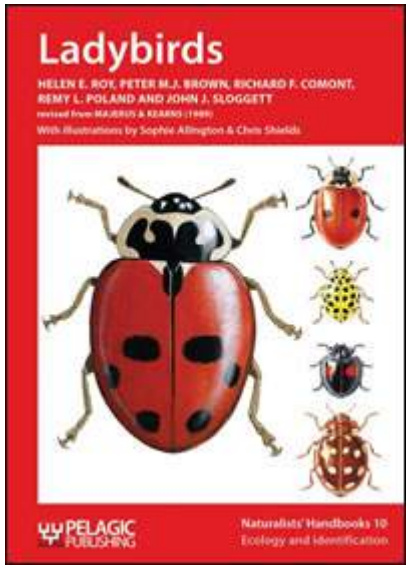


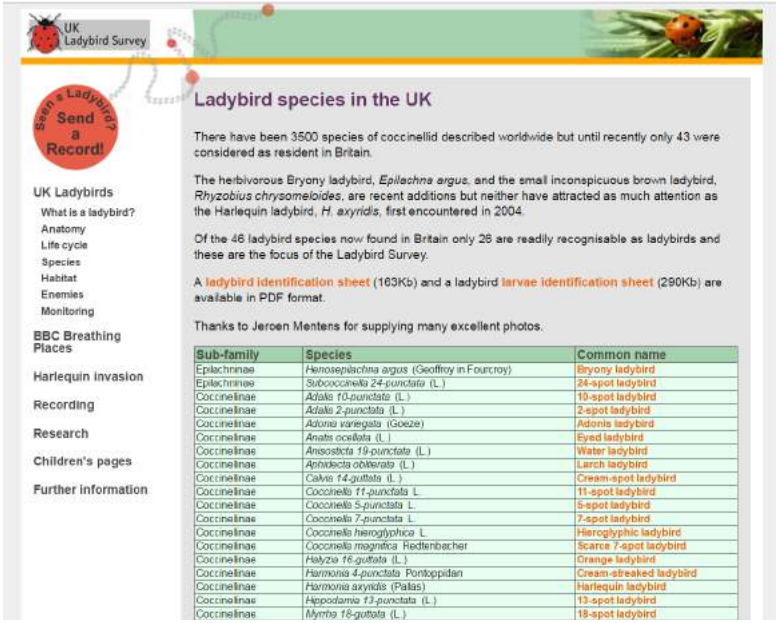
E-mails

From: John Powell
Sent: 26 October 2016 13:14
To: ladybird-survey
Subject: Sighting
St. Annes on Sea, FY8. 1 adult in my garden on 29 June 2014. Sitting on the leaf of a potted plant as shown on the picture attached. Kindest regards, John

Atlas, field guides and resources







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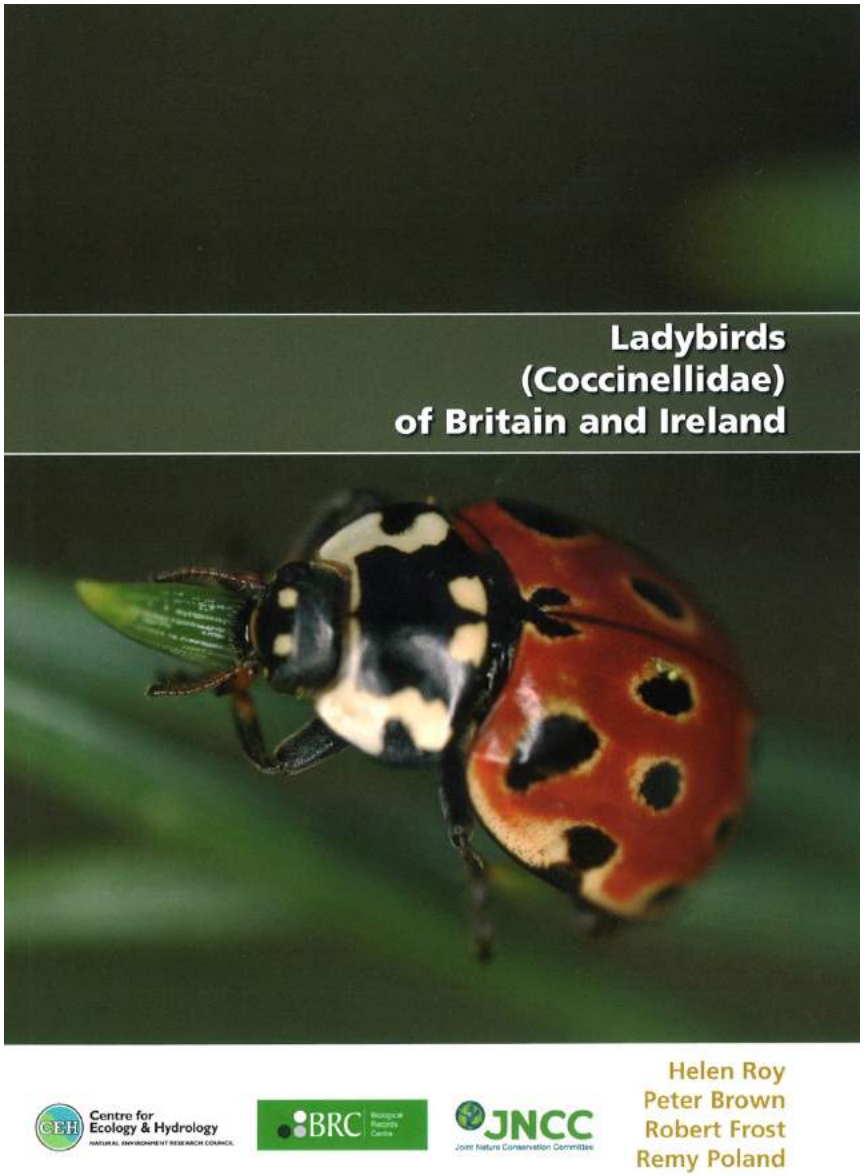
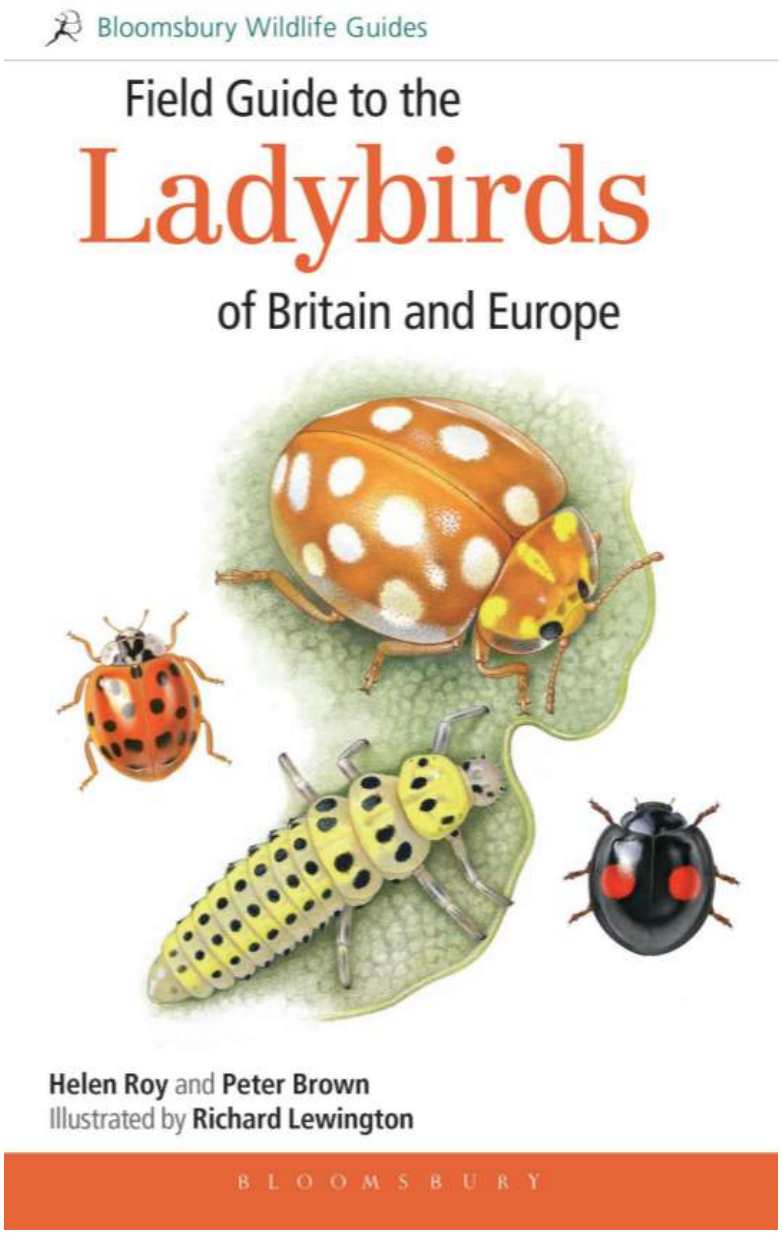
From ladybird atlas to field guide





More than 200 000 records; 19000 recorders

Species in decline (1995-2015)

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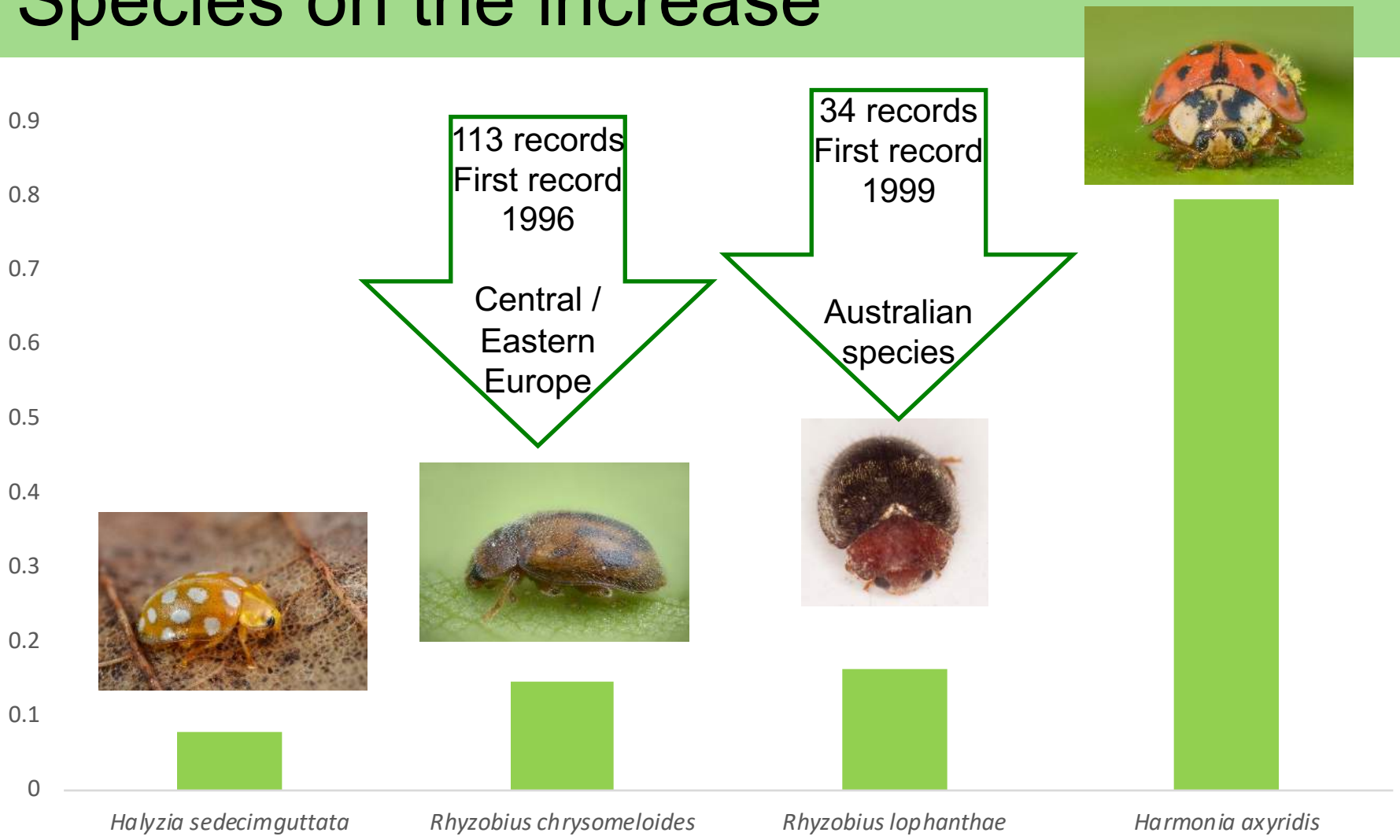
Species on the increase



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From ladybirds to hornets

Vespa velutina

Terrestrial predator

Native to China

Arrived in pottery consignment Bordeaux, France in 2004

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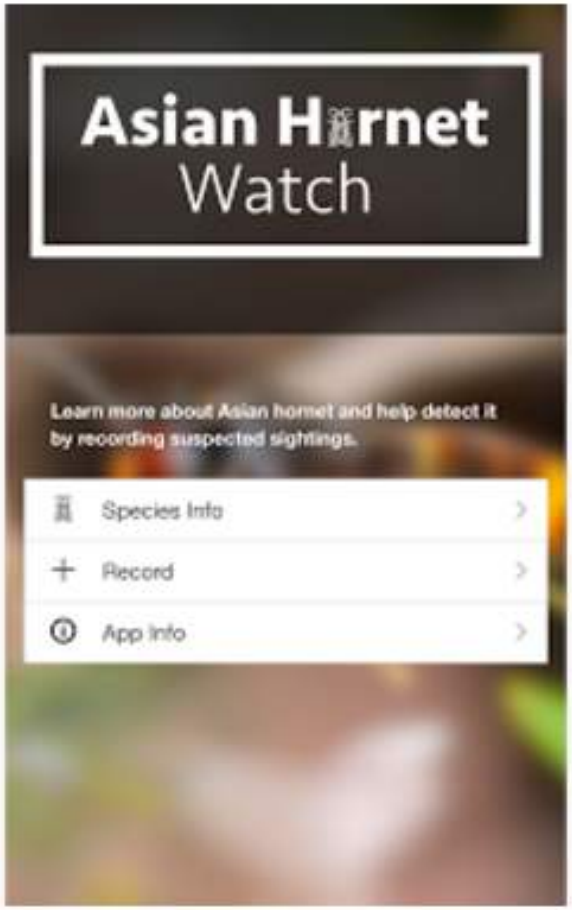
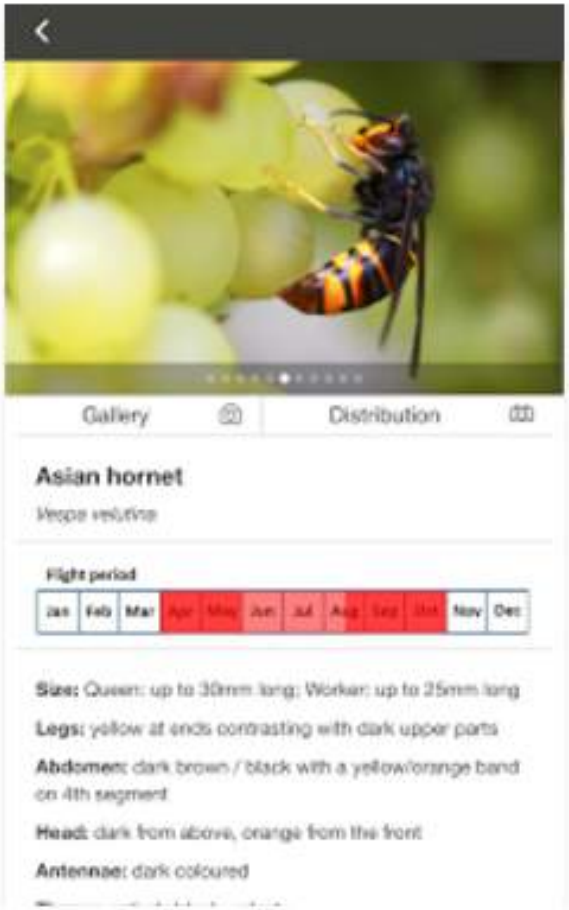
Asian Hornet Watch





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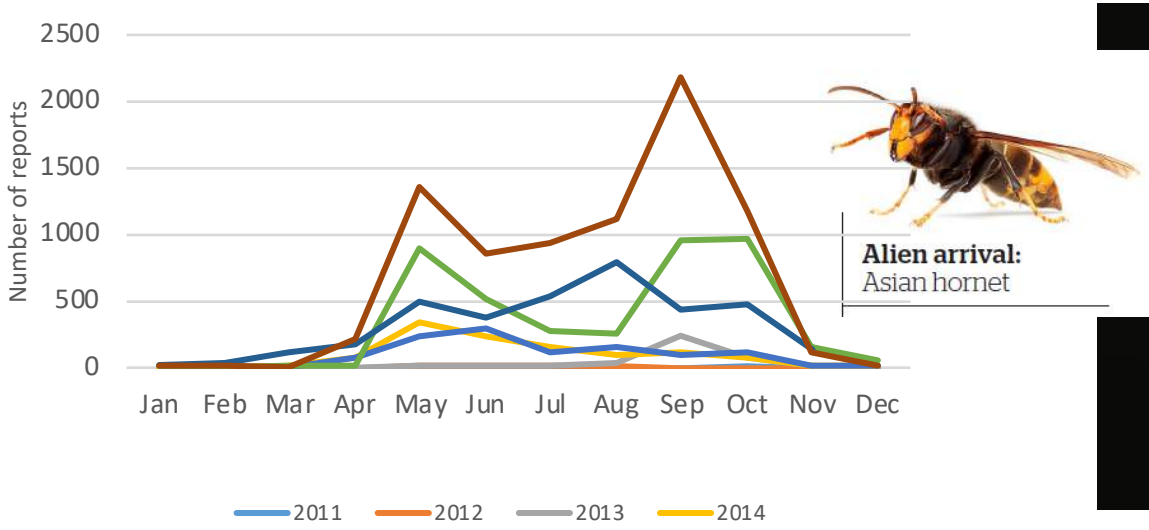
Citizen science for monitoring invasions



Alien arrival:
Asian hornet

AlienCSI

cost
EUROPEAN COOPERATION IN SCIENCE AND TECHNOLOGY

COST is supported by the EU RTD Framework Programme

Asian hornet – arrived September 2016

Increasing understanding of alien species through citizen science

cost
EUROPEAN COOPERATION
IN SCIENCE AND TECHNOLOGY

COST is supported by the EU
RTD Framework Programme

…charismatic species…









…amazing recorders…

Unravelling ecology together…

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Summary

- Many, many reasons for engaging people with biodiversity
  - Need for big data to address big ecological questions
  - Need to engage people in decision-making
  - …etc
- But words can not describe the joy of celebrating biodiversity together

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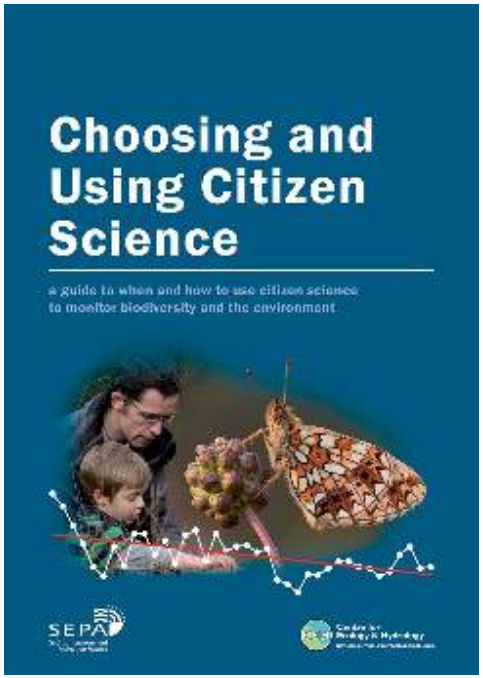
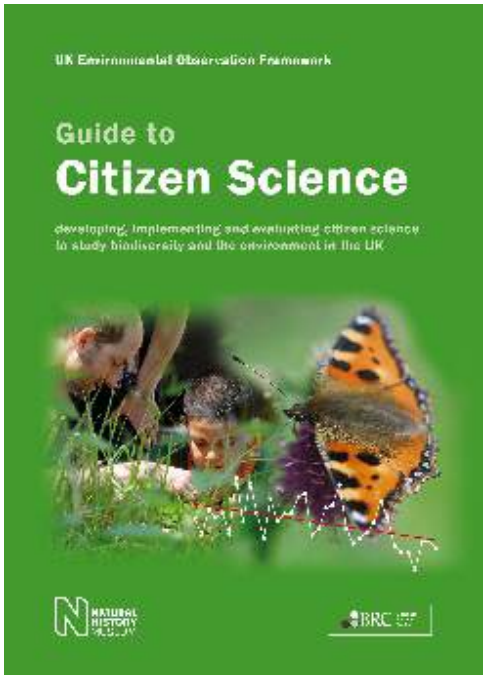
Tool kits for citizen science…

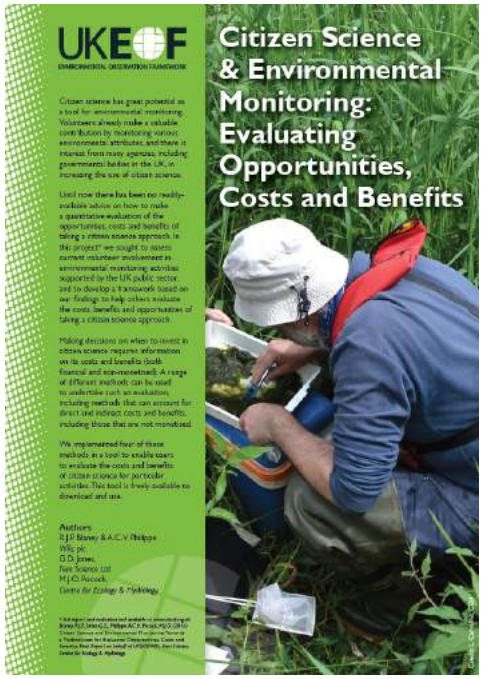
How to choose citizen science approaches



How to run citizen science well



Evaluating cost-benefits of citizen science



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Thank you


EUROPEAN
CITIZEN SCIENCE
ASSOCIATION


biodiversa


doing it
together
science


museum


AlienCSI


cost
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COST is supported by the EU
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Botanical Society
of Britain & Ireland


BTO
Looking out for birds


UK
Ladybird Survey


THE MARINE BIOLOGICAL ASSOCIATION


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NNSS
GB non-native species secretariat


Department
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NBN
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