Using national scheme data for scientific research

Butterflies
Butterflies for the New Millennium, established 1995

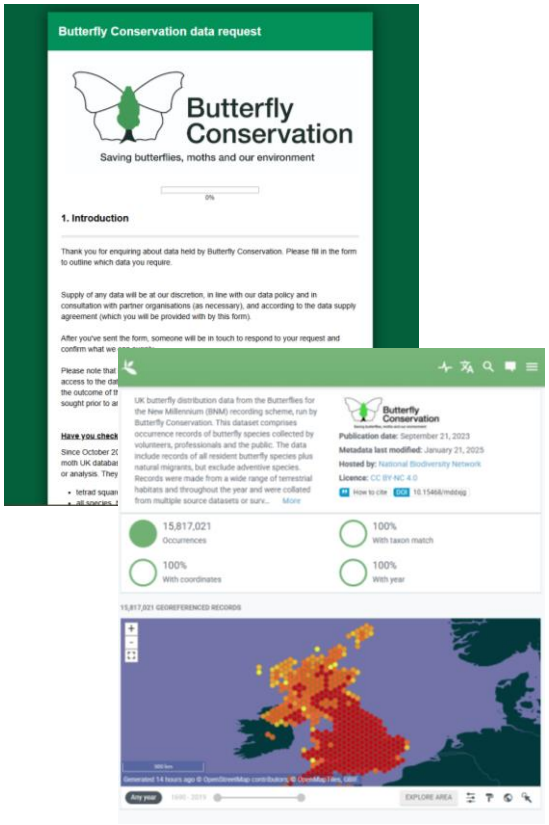
>17 million verified butterfly records

Moths (macro- and micro-)
National Moth Recording Scheme, established 2007

> 43 million verified moth records

How do researchers access the data?

1. Direct requests
2. NBN Atlas and GBIF
3. Collaborations
4. In house researchers



When do researchers contact us?

1. They don't need to (NBN Atlas/GBIF)
2. At the outset of projects (ideal for collab/funding)
3. When the project is underway

Butterfly Conservation

Topics of research are varied:

- Impacts of **global drivers** (e.g. land-use change and climate change) on butterfly and moth populations
- Predicting future biodiversity impacts of **policy decisions** (e.g. Biodiversity Net Gain, tree planting targets)
- Assessing benefits of **interventions** e.g. agri-environment schemes, gardening for butterflies
- Effects of **pollutants** (e.g. pesticides, light) on butterflies and moths
- **Phenological change** and its implications for populations
- Developing or testing **statistical models**
- Understanding **recording bias** and its impacts on analyses
- Locating populations for **study/sampling** (e.g. genetic studies)

Butterfly Conservation

Advantages of working this way:

- Use of data – we (and the recorders) want the data to be used!
- Advancing knowledge
- Visible feedback to data volunteers and citizen scientists (positive reinforcement)
- Collaborations
- Kudos and building brand
- Attracting funding

Science News: Counting butterflies good for citizens and science

17 February 2025

Richard Fox discusses Butterfly Conservation's research into the impact of counting butterflies on mental wellbeing.

The importance of human interactions with nature has attracted much recent attention in policy and research circles. Much of this is due to the mental and physical health benefits that people gain from spending time 'in nature'[1], but there is also a critical link to the biodiversity crisis. People who experience more nature and have a

Butterfly Conservation

Challenges of working this way

- Reactive work vs proactive – capacity and prioritizing against goals
- Appreciation of biases or difficulty interpreting
- Ensuring involvement or benefits for the schemes – could be acknowledgement/co-authorship, publicity, awareness…
- Funding?
- Licensing/onward use/publication
- Triage of how to handle/how involved to be e.g. prioritise research with outputs and impact aligning with our priorities

Butterfly Conservation

Support framework

- NBN Atlas/GBIF (relatively new for us)
- Data use agreements/licensing
- A system for gathering relevant information
- A system for managing processing and staff capacity
- Science team to identify opportunities/issues, build collaborations etc.
- Partnership with UKCEH as a research institute

Butterfly Conservation