



### The Nature Emergency – How meadow owners can help

by Andrew Martin, Laura Moss and Isabel Macho

We often ask Carmarthenshire Meadows Group members to tell us about the land they own or manage, and where it is. It may have the potential to be a component of the connectivity between wildlife-friendly sites. But what exactly does that mean, and why does it matter?

Within the largely wildlife-poor agricultural landscapes of today, there are still small islands and pockets of biodiversity-supporting land. Nature reserves, plots owned and managed by nature-friendly farmers and farmers in agri-environment schemes, or by small landowners such as members of organisations like CMG, who want to manage their land in as wildlife-friendly a way as possible, are now responsible for conserving these sites. One small island is valuable, but even if it contains habitat well suited to a particular plant, butterfly, moth, or mammal, it may not be possible for those species to reach across the (to them) unsuitable landscape separating areas of suitable habitat. It is therefore very useful to know where such sites are, and the concept of connectivity – wildlife friendly corridors or stepping stones along which species can move, enabling them to colonise or recolonise suitable habitat – has become an important aspect of wildlife conservation. So, it is very useful for CMG to have information about such sites and know where they are.

#### **Is nature really in crisis?**

The future for all life on earth (including ourselves) is likely to be very different from the past few thousand years. There are two major reasons for this:

1. **Biodiversity Loss**, where many species of all taxa are in serious decline, and are facing extinction in the next couple of decades. This loss of biodiversity is caused by human activity such as overexploitation of natural resources, the loss of habitat by using increasingly large areas of land for food production, and expansion of cities. Human activity, in terms of the burning of fossil fuels since the industrial revolution, is also the cause of anthropogenic climate change which is itself causing biodiversity loss., as are pollution and the introduction of Invasive Non-Native Species (INNS).
2. The effects of **Climate Change** are already being seen across the world. In many regions its effects are much more devastating than the increased frequency of extreme weather

events, such as the formerly rare storms, floods and droughts we are seeing here in the UK. Average temperature increase is also causing changes in the geographical range of some species, as the maximum or minimum temperatures they are adapted to are now occurring at different latitudes. The life-cycle phenology ( see <https://www.youtube.com/watch?v=EkZEMg0ZzL4>) of different species may be affected differently by climate change, and if the species are interdependent (such as bird nestlings being fed on caterpillars) they may not be able to adapt to the rapidly changing situation quickly enough.

In the UK we often condemn nations in, for example, South America or South East Asia for destroying tropical rain forest so the land can be used for farming cattle or growing oil palm. But we often forget that in what is now known as the UK, we cleared much of our forest for farming in the Bronze Age (5,000 – 3,000 years ago). Most of the large mammals that would have been native to these islands in the distant past have been made extinct by humans, perhaps inadvertently by over-hunting in some cases, or deliberately because they were seen as a danger to ourselves or our food supply.

After the change from a hunter/gatherer way of life to one based on farming, many of the habitats on our islands became “semi-natural”. This means that they were being managed in some way by humans. For example, pollarding of trees to provide winter food for livestock (foliage produced on the pollard branches that the animals couldn’t reach), or coppicing of woodland to produce a crop of hazel stems and other timber for many purposes, or the development of hedges by hedge-laying to provide stockproof enclosures. And, after the development of grass-cutting blades in the Iron Age (from about 1200BC), hay meadows which provided a source of winter livestock fodder (hay).

So, many of the landscape features these practices produce are not “natural”, in the sense that they need human intervention. But they have existed in this form for about 3,000 years. The remaining flora and fauna of the UK was adapted to these habitats, as well as to what remained of the “natural” ones. Semi-natural habitats (such as hedgerows, woodland coppice, and meadows) are now recognized as being vital to the survival of many of our plants, fungi, and animals.

After remaining largely unchanged for several thousand years, in the last seven or so decades our landscape, especially habitats associated with farming, has undergone unprecedented rapid and drastic change. Many of the wild plants, fungi and animals that were well adapted to the farmed environment (as it had been for so long) have been unable to survive the rapid changes since the Second World War, and the UK and Wales are among the most nature-depleted nations in the world. Unless we take action to slow and reverse this loss of biodiversity, many species (perhaps including our own) face extinction.

As small-scale landowners, our best chance of effective action (apart from managing our own separate areas of land to benefit biodiversity) is to work together to find areas where good habitat patches could be linked, providing wildlife-friendly corridors. This could be done, for

example, using Geographic Information System (GIS) Mapping. There may be areas where wildlife-friendly holdings are clustered together, where the owners could benefit from being put in touch with each other. We can only do this with the permission of the CMG members in question – see <https://carmarthenshiremeadows.com/cmg-membership/> to read more about our privacy policy.

You can see what data we hold on your land by looking on our database. Nobody other than yourself can see your data, apart from the three system administrators on the Steering Group: Colin Law (CMG Treasurer), Andrew Martin (CMG Chairman) and Laura Moss (Big Meadow Search Lead). You can update it whenever you like, by following the instructions in this article on the website's blog:

<https://carmarthenshiremeadows.com/2024/04/16/message-to-members-why-does-cmg-want-information-about-your-land/>

See also [Why is there a need for meadows groups?](#)

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#### **Biodiversity Loss**

Wales is now one of the most nature-depleted countries on Earth. In the State of Nature Wales 2023 [State of Nature Wales 2023](#) the extinction risk of 3897 species was assessed using Red List criteria and found that 18% (one in six) were at risk of extinction, including species such as Water Vole (areas of Carmarthenshire are important for this species) and more than 2% are already extinct in Wales.

This loss of biodiversity is caused by:

- Climate Change
- Agriculture
- Development
- Pollution
- Invasive Non-Native Species.

#### **Ecosystem Resilience**

This is the capacity of an ecosystem to deal with pressures and demands, In Carmarthenshire, as across Wales, improving ecological resilience is one way we can do our part to tackle the Nature Emergency locally. CMG members can be an important part of this.

An approach has been developed in Wales to use four attributes for Resilience. These are – *Diversity, Extent, Condition* and *Connectivity*. Ecosystem resilience comes about as a result of an

interplay between these aspects, allowing ecosystems to adapt, recover and resist pressures and demands more readily.

What is needed to enhance ecological resilience of habitat networks can be summarised as: **more, bigger, better** and **joined up**.

Ways of doing this would be to:

- (i) improve the quality of current sites by better habitat management - BETTER
- (ii) increase the size of current sites with semi-natural habitat - BIGGER
- (iii) enhance connections between, or join, sites, either through physical corridors, or through 'stepping stones' - JOINED UP
- (iv) create new sites - MORE
- (v) Reduce the pressures on wildlife by improving the wider environment, including through buffering wildlife sites.

CMG members can help with several of these actions, and while we each can only do a little bit to help, we can do more by combining our efforts, coordinating between different sites, and having good knowledge of what we collectively manage and where it is.

If you would like to have your land mapped, or would like to be made known to other CMG members who manage land nearby, please let us know by sending an email to [website@carmarthenshiremeadows.com](mailto:website@carmarthenshiremeadows.com)