

## **Guidance for monitoring biodiversity at the farm scale**

Biodiversity is important for supporting ecological functions (nutrient cycling, water infiltration, pollination, pest control etc.) on your farm. Whilst you don't necessarily need very high biodiversity for these functions, having a higher biodiversity provides resilience (replacement species) in case of species loss and provides other benefits including access to minerals and micro-nutrients for livestock as well as enhancing the value of the landscape. Enhancement of biodiversity on your farm is dependent on where you are and how your land has been managed historically, but it is also influenced by your farm infrastructure (habitats, hedges, crop types etc.) and your management decisions.

In order to record biodiversity on your farm and monitor change over time you need to set a baseline. By then doing the same measures over time you should be able to track how biodiversity is changing on your farm.

### Setting a baseline.

#### **1) Map your farm**

Farms may consist of many different types of fields and features and the more variety you have the higher the capacity for biodiversity. Another important factor about what you have present on the farm is how connected-up different bits of habitat are – particularly non-cropped habitat, like hedges, small copses, ponds etc. Similarly, how divided-up your large areas of cropped habitat are is important – small fields provide more habitat for wildlife where the field boundaries are uncropped – e.g. hedges, banks or strips of grass. Or within a large field you may have patches of different habitat (maybe wetter or drier or on a slope) where you get different species growing, or you may have patches of taller ungrazed grass within a field with rotationally grazed paddocks. Consider:

- How much variety of habitats, cropped and uncropped (semi-natural) do you have on your farm?
- How connected up are the semi-natural habitats on your farm?
- How divided-up or heterogeneous are the cropped habitats?

Having a good record of your farm and all its habitats will enable you to record where you have added or enhanced habitats. Once you have a map, you can record additions/changes, either on the map itself or on a separate sheet – using a field code on the map to show you where the change has been made. Additions could include new trees, hedges, field margins etc. changes could include management changes like applications (e.g. stopping applying herbicides) or grazing regimes (e.g. switch to mob grazing).

#### **How to map your farm**

You may have a Farm Environment Plan (FEP) or a Farm Environmental Record (FER) if you have been in the Environmental or Countryside Stewardship schemes), or a farm map. These could be used to map what habitats you have and what features – like hedges, ponds, streams or individual trees and any land you leave aside next to these (grass strips etc). Another method is to use an App or online mapping system if you can. The LandApp <https://www.thelandapp.com/> is one which is being used in the Tests and Trials for ELM's – (for producing Land Management Plans). Potentially you may be able to access and use it yourself, but see the website to find out more.

To do a really good job on the farm it would be best to use an established classification system for habitats and landscape features and UKHab is useful for that (and free to use) (<https://ukhab.org/>). It is used within LandApp. Again the Tests and Trials are using this and so are ecological consultants doing biodiversity offsets (using the Defra biodiversity metric) etc. You can map habitats at different levels depending on your expertise – but at a minimum **Level 3** should be used and **Level 4** if you know that you have any Priority Habitats (such as hay meadows). UKHab also includes a lot of secondary codes which can help describe the features you have on the farm and other details about the land such as how wet it is or what stock you use on it.

## 2) Record biodiversity or factors influencing biodiversity

### Hedges

A good start is to record the quality of your hedges (or some of them) – maybe target some you may plan to change and others you don't. An excellent method is to use the PTES Great British Hedgerow Survey Guidelines

<https://hedgerowsurvey.ptes.org/>

If you set a baseline as soon as possible then revisit in a few years you can measure how things change according to your management.

### Birds

If you are keen on watching birds they are a good group of species to monitor as they get to choose where they want to go and will preferentially choose areas with lots of food and shelter. You could adopt the British Trust for Ornithology's Breeding Bird Survey **methodology**, see <https://www.bto.org/our-science/projects/bbs>. This would involve walking a set route across your farm regularly and recording birds within a certain distance of you (either by sight or sound). If you are not keen yourself but willing to have others come and monitor you could talk to local birds groups <https://www.rspb.org.uk/get-involved/community-and-advice/local-groups/> to see if any volunteers would be willing to come and monitor birds on your land.

### Invertebrates

Butterflies, like birds are very good indicator species and they have their own recording programme and monitoring protocols <https://ukbms.org/methods>. You have to get good warm days for recording them, but as for birds, you follow a transect and record what you see.

### Plants

Plant recording can be tricky, but it is getting easier with plant recognition apps like Flowerchecker. Other excellent (and cheap) ID guides include the Field Studies Council Guides, see [https://www.field-studies-council.org/product-category/publications/?fwp\\_publication\\_type=fold-out-guide&fwp\\_paged=2](https://www.field-studies-council.org/product-category/publications/?fwp_publication_type=fold-out-guide&fwp_paged=2)

The common grasses and the playing field guides are very useful, as are the grassland plants guides (particularly if you have high quality grassland). There is also a volunteer plant recording scheme (like the one for birds) called the National Plant Monitoring Scheme <https://www.npms.org.uk/> for which you could follow methodologies on plots adjacent to hedges or in fields. You need to go back to the same places year after year when recording plants and measure the same area (e.g. 1m<sup>2</sup>)

The key thing about monitoring biodiversity is to be as consistent with your methods as you can be – same places, similar time of year, similar day (climate wise) etc.

**Recording what you see**

You can download apps to use for this such as irecord

<https://www.brc.ac.uk/irecord/>

Or you can use paper (and keep in a safe place or transfer to a spreadsheet so that you have a digital record)

Ideally you will record, date, time, weather, location, who is doing the recording and any recent management that may have affected biodiversity – applications pesticides/fertilisers/grazing etc.