



Habitat Connectivity training document for Wildlife Wardens.



One of the main reasons that wildlife is failing and individual species are becoming increasingly rare is **habitat fragmentation**. When habitats are destroyed, the remaining good wildlife sites and nature reserves become isolated, with many species unable to move safely to another habitat. This particularly applies to plant species that don't have good seed dispersal, and to animals that either can't fly strongly (such as some butterflies and moths) or can't cross open terrain (such as dormice). If species can't move and spread, then plants may not be cross-pollinated and animals may not be able to mate with genetically different mates - or they may not be able to find a mate at all!

Habitat fragmentation results from:

- **Intensive farming** (ploughing, pesticides, fertiliser etc). It has given us what we it seems we want most - cheap food - but has destroyed most of the wildlife in most fields. We are left with soils with very low organic matter and which often have very few soil organisms, whether worms, fungi or bacteria - all of which are needed for a healthy soil.
- **Hedges** are the main connecting habitats that are left, but if they are flailed every year, they provide very little safe passage, shelter or food for wildlife. Thick and fairly high hedges provide a corridor with food, cover and housing - as well as sheltering farm animals and saving time and diesel!



Diagram showing the edge effect: Left hand hedge - flailed annually. Righthand hedge - only cut occasionally, so that it has lots of berries, lots of different habitats & good connections.

- **Field corners** are usually grazed or cropped, leaving wildlife with long journeys through short, flailed, dangerous hedges with no resting places. Farm support schemes (which are now being phased out) had penalised farmers who allowed field corners to become good habitats.
- **Plantations:** Although we have above average tree cover in Teignbridge, much of it is **plantation woodland** where non-native trees are planted in rather sterile blocks; although they suit a few species, for most they are a **barrier**, rather than a connection to other habitats.
- Many **small woodlands** are isolated from other woodlands, with flailed hedges as their only link. Ancient woodland plant species are notorious for not having seed dispersal strategies - which is why primroses and bluebells will only colonise a new broad-leaved woodland if they are seeded/planted there. Many woodland invertebrates, such as beetles, need dead wood and don't fly far.
- Some **birds** are able to move many miles to a new habitat - but many species have inbuilt 'homing' instincts, so that they either stay within a mile or two of their birth place - or migrate every year to a specific place thousands of miles away - and then come back to their specific place in the UK. They are less mobile than we think!

- **Invertebrates and mammals** need a mixture of shaded and damp habitats, trees, woodlands, rivers and streams to move through.
- Having '**interfaces**' between 3 or 4 different habitats within a small area gives opportunities for many different species. Good examples would be a small area of scrub in a field corner, combined with a ditch beside a well-grown hedge, or a buffer zone beside a hedge sown with wildflower seeds for birds and pollinators. Another good example would be a boggy corner or a small pond.
- On farmland, **buffer strips** against hedges, brooks and rivers, where ground isn't cultivated and fertilisers aren't spread and pesticides aren't sprayed are vital connectivity
- **Connected and adjoining habitats** have much more wildlife than isolated habitats. A woodland with scrub growing along its boundary and coarse grasses growing alongside the scrub will have MUCH more wildlife, with more different species, than a wood with a fenced edge against an intensively grazed field. See diagram below.

Rewilding is vital for the future of wildlife, but it is equally important to realise that rare habitats, such as species-rich meadows, should not be 'allowed to rewild'. They are the product of many, many years of traditional management and use and many of their species will be lost if that stops.

Rewilding requires, at the least, wild grazing, feeding and ground-disturbance by deer, rabbits and badgers. When rewilding much larger areas, low stocking rates of hardy native cattle, Exmoor ponies, beavers and wild-type pigs may also be needed to create open areas for more diversity. Isabella Tree's book, 'Wilding' about the Knepp Estate in Sussex is a brilliant read, which includes the best explanation of how we have got into this mess! <https://www.nhbs.com/wilding-the-return-of-nature-to-an-english-farm-book> and/or join <https://www.rewildingbritain.org.uk/.../rewilding-britain> At the very least, we need rewilded areas that are spread through our countryside, providing large areas (probably 10 hectares or much more) of good habitats that are linked to other good habitats and existing nature reserves.



Exmoor ponies in a Rewilding area at Deer Park Farm.

You need to be able to **recognise different habitats** in order to look after them - and you also need to know at least some of the species that need these habitats in order to survive.

Mapping connectivity in your Parish:

A really useful Wildlife Warden Project that you can get your community to help you with.

One of our greatest hopes, when we started the Wildlife Warden Scheme, was that it would help connect our wild animals, insects and plants up, so that they could travel to other good habitats, find a home and find a mate (or maybe, just some pollen grains to make new seeds).

But we would like to be more ambitious too! So, if anyone has a few spare hours, they could:

Make a basic A4 size Parish map, using Magic Maps or a similar programme. Add:

- Rivers and streams
- County Wildlife Sites, SSSIs,
- Woodlands
- Public Rights of Way
- Field boundaries

As you walk around your Parish, you can take the map and some crayons to mark different habitats, such as:

- **Green Lanes:** These are the best linear connections, the two hedges making a warm microhabitat for every living thing.
- **Hedges:** Tall, wide, thick hedges are home to so much wildlife! You may want to note whether they have over 5 shrub/tree species and whether they have a variety of flowering plants; also whether they have been flailed hard, or are quite bushy.
- **Streams, Rivers, Estuaries and Canals:** You may only be able to see these from bridges and rights of way, but if you can, mark the state of the banks - for example whether they are damaged by cattle drinking, or whether there is a fenced buffer zone to protect the banks. (Don't forget we have the beautiful Stover Canal passing from Teigngrace to Newton Abbot and a tiny scrap of the Hackney Canal too. The Exeter Canal is in Teignbridge east of the Turf lock).
- **Roads:** Quiet roads with thick hedges and wide verges are very valuable. Even dual carriageways can have wonderful plant habitats - but please keep well away from busy, dangerous roads.
- **Railways:** Railways are fenced off for good, safety reason, but you may still be able to roughly evaluate railway bank habitats from bridges and public footpaths.
- **National Grid Pylon Paths:** These are most often on private land, and inaccessible, but in places the management required for safe electricity to flow, is also good for wildlife - this usually means coppicing to prevent tall growth, which can produce a really valuable scrub habitat that is coppiced every 5 or so years. Sometimes just the square pylon base 'rewilds', sometimes a whole stretch of cables. Often it is necessary to ask National Grid not to cut scrub during the bird nesting season!



- **Gardens:** If you can persuade lots of neighbouring gardeners to 'wild' their gardens a bit - you can create a linear nature reserve through your community with thousands of species and habitats, including meadows, ponds and mini-woodlands. There are lots of ways we can do this plant pollinator-friendly plants; make holes in the bottom of fences for hedgehogs to travel through; give up pesticides - and just leave a patch for wildlife.

DBRC can make good use of your maps, because knowing about local connectivity helps them to protect wildlife, especially as part of the planning process.

Strategic Nature Areas (SNAs).

Strategic Nature Areas:

This information is taken from the Devon Biodiversity Records Centre website www.dbrc.org.uk

What are SNAs? They are NOT designated areas. They are areas of Devon's countryside which contain higher than average concentrations of existing wildlife habitats such as native woodlands,

flower-rich grasslands, bogs and heathland (many of these habitats will have an international, national or local designation). For simplicity, each SNA is classified on the map according to the dominant habitat type (e.g. East Devon Pebblebed heaths is classed as lowland heathland). However, the majority of SNAs are a mix of different wildlife habitats and other land uses.

Profiles were drafted for most SNAs (around) 2009 to provide basic information (including maps) on habitats and species in the SNA. [Find an SNA in your area and download the profile](#). The aim for each SNA is to ensure that the condition, area and distribution of the wildlife habitats within it can support populations of characteristic species e.g. the area and condition of habitat at Rackenford Moor SNA should support populations of marsh fritillary butterfly.

Uses: Devon's Nature Map is used to focus efforts for maintaining, restoring and re-creating habitats and the conservation of associated species. Example uses include:

- Providing the focus for the [DWT Working Wetlands project](#)
- Providing the focus for landscape conservation efforts within Dartmoor National Park and the development of Living Dartmoor. Note that SNAs are known as Key Wildlife Areas within the Dartmoor Strategy. A delivery plan is being developed for each [Key Wildlife Area](#)
- Developing a strategic approach to locating compensatory habitats required as a result of some unavoidable development impacts -
- <http://www.naturaldevon.org.uk/biodiversity-offsetting-pilot/>
- Targeting of funding such as the New England Land Management Scheme.
- **Being able to see important habitats that need connecting!**