Hedgerow survey guide

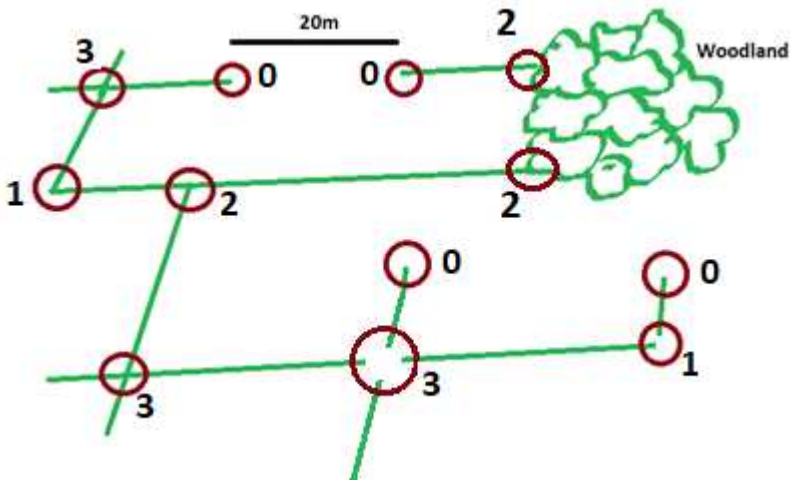
Some of the questions of this survey relate to observations of the whole of the hedge you are surveying, and other questions should be answered for a 30m sample of this same hedge. The survey form should make it clear which questions relate to the whole hedge and which relate to the sample.

Whole hedge

Where does the hedgerow start and end?

Hedgerows in the countryside form a network, with many hedges linked together. For the purposes of this survey, we need to define a 'start' and 'end' point for the hedge, which we will call 'nodes'.

The circles on this diagram show the nodes. The numbers show the number of connections at each node circled.



Nodes:

- Where another hedge meets your hedge
- Where there is a gap in the hedge of 20m or more
- Where hedge structure changes dramatically for 20m or more
- Where your hedge meets another feature such as a wall or woodland
- Where your hedge turns a corner of 90 degrees or more

When collecting the start and end locations on paper you have two choices; you can either find the lat/long for each point or you can make a local reference map. When it comes to inputting the data on this website, you will be asked to drop two pin points on a map to show where the hedge is located. For this reason, it is important to have a good system to record the location of each hedge. We recommend writing a unique reference on a paper map of your survey area, adding this to the 'location reference' column of the survey form and using these together when adding this data to the website. These references may be numbers, letters, field or road names but must be unique, and link the paper survey data to the hedge on your map

Connections:

- The number of other hedges your hedge is connected to at each node.
- A hedgerow ending in woodland counts as two connections on that end.
- If there is a gateway or opening (less than 20m) at the node, count the hedge(s) that would otherwise have attached

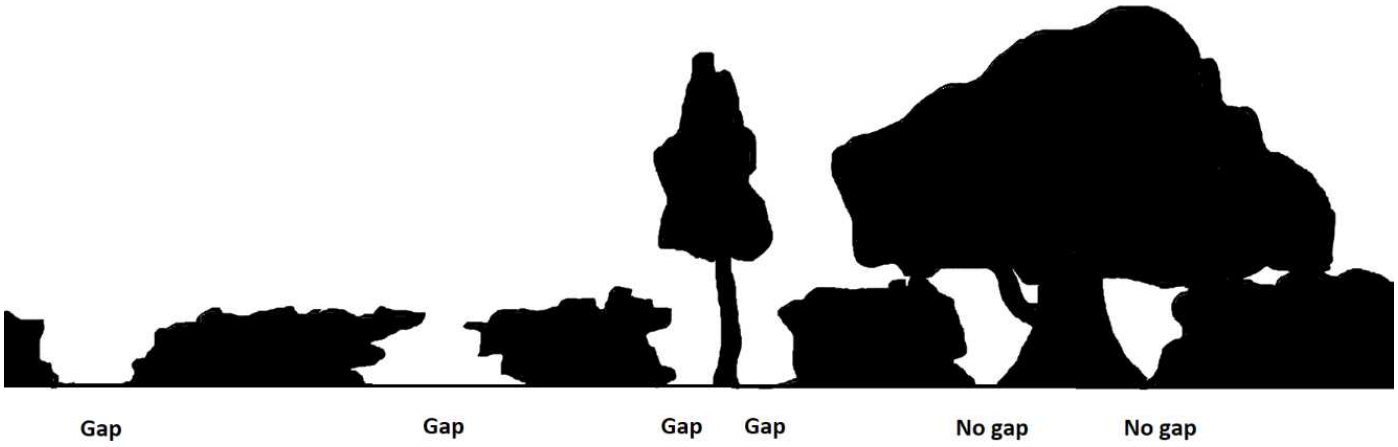
Tip: When measuring out the length of the hedge, as well as your 30m section, it is helpful to know the average length of each step, or how many steps you take to reach 5m. This will be much easier than using a tape measure all the time.

Measuring gaps

A gap in a hedge is any point where there is a break in canopy, and the woody structure of the hedge does not meet. Please include both small and large gaps in your calculations.

Occasionally you will see gaps in a hedgerow that are starting to fill with bramble and fast growing species, in these cases these are still counted as gaps as there is no woody hedge structure component.

At times, the presence of a large tree can cause some gappiness around the base. If the tree canopy overlaps with the hedge canopy this is not considered a gap. Only regard something as a gap if there are no overlapping canopies of woody species to maintain connectivity.



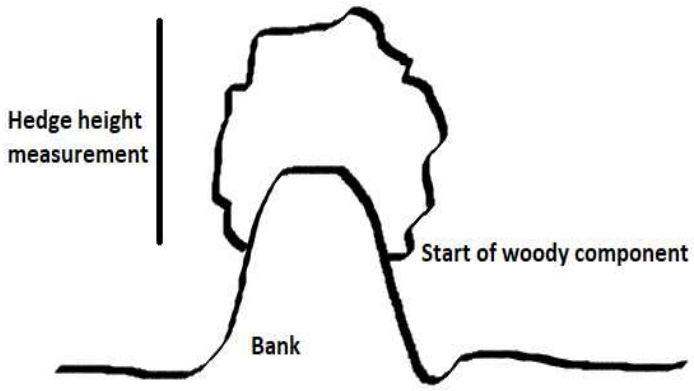
30m sample of hedge

Which 30m of this hedgerow do I survey?

The 30m sample of the hedge should be representative of the rest of the hedgerow, and ideally not at either end of the hedgerow. You can only know what is representative after walking the length of the hedgerow you are surveying.

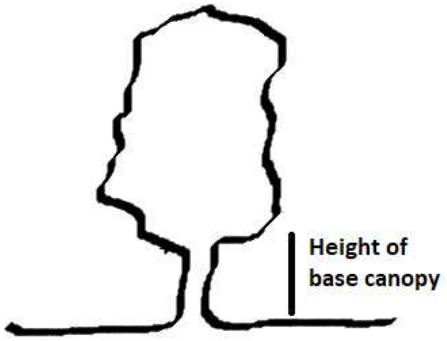
How do I measure the height and width of the hedgerow?

Both the height and width measurements of the hedgerows should measure from the start of the woody vegetation. For example, if the hedge was a bank, but the woody component of the hedge only started half way up the bank, then you would measure from this point to the top of the hedge. Herbaceous vegetation and brambles should not be counted in this measurement.



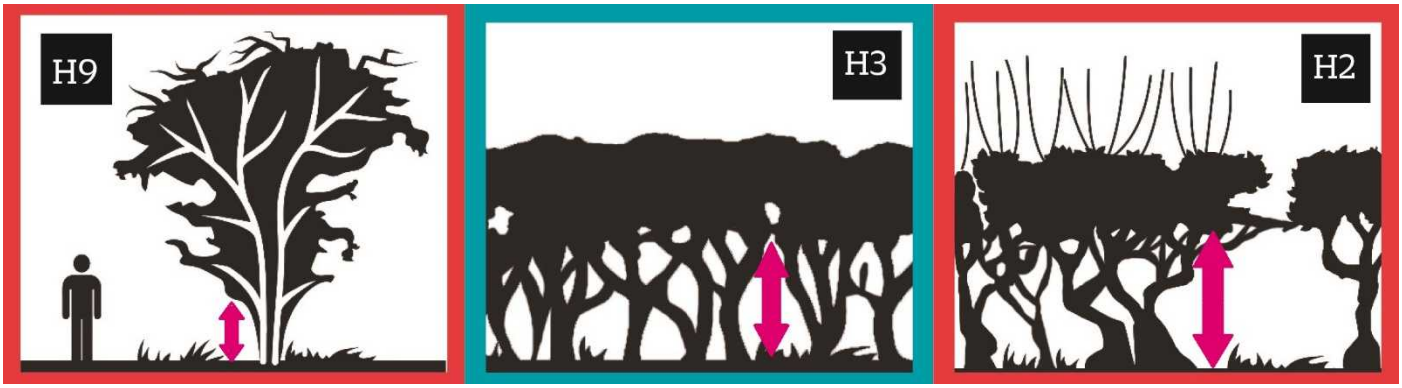
Tip: Taking a tape measure with you is important to these measurements, but also a stick up to 2m long can be a really useful tool to poke through hedges to measure their width and height. Even better is if this stick is marked at

regular known intervals. A Second pair of eyes is also advisable, only this way will you know when your marker stick is through to the other side of the hedge, and they can get a better estimation of height if they step back for a better perspective.



What is the base canopy and how do I measure it?

The base canopy is the lowest leafy growth coming from the structural woody plants in the hedge. In cases where the hedge is extensively grazed, where it is overgrown and 'leggy' or where tree guards have been left on a young hedge too long, this base canopy may not extend to the ground. Please estimate the average height of this canopy from the floor, excluding herbaceous vegetation.



Hedgerow structure

Please read all the descriptions of the Hedge structures H1 to H10 before going into the field and get an idea how they fit together into the hedge management cycle. Understanding the management cycle and the signs of over-trimming and neglect is a great way to help you classify the hedges you are surveying.

The heights and measurements in the hedge structure descriptions are there as a guide only, please make your choice based more on the description than the measurements. An overgrown hawthorn hedge will grow to a different height than an overgrown mixed tree hedge, and a hedge may still be over-trimmed at 2-3m high if repeated trimming to the same height has caused the structure described.

Sometimes you may come across a hedgerow that doesn't fit into any of these categories. If this happens, have another read through the descriptions and chose the category it fits in best, even if the description is not perfectly describing the hedge in front of you. In the cases where no structure represents your hedge, please mark 'not similar to any of these structures'. Unfortunately, this will reduce the usefulness of the condition assessment and also the management advice we create for you. As much of this is tied to the management cycle and these structural categories. If this is the case, you will get the option to categorise the hedge into one of four broader descriptions, Over-trimmed, Tall and Overgrown, Dense and well managed or Rejuvenated.

Hedgerows between two structure types. Sometimes hedgerows that are in the process of structure change are particularly hard to categorise. For example, a previously over-trimmed H2 hedge that has been left to 'let up' in preparation for laying will have elements of the over trimmed hedge, the hard knuckle at the trim line, possible reduced number of healthy stems but it may also now be taller than you would normally assume for an H2 hedge and may not have been trimmed for a year or two. In these cases, please categorise the hedge as the structure it is coming from, in this case H2, and then ideally return to re-survey the hedge when and if there has been a significant change.

Hard knuckle at trim line

When repeatedly trimmed at the same level, the woody hedgerow plants develop a knuckle like appearance at this trim line. This is the accumulation of plant scar tissue, and can sometimes be seen by an increased number of shoots growing from this point.



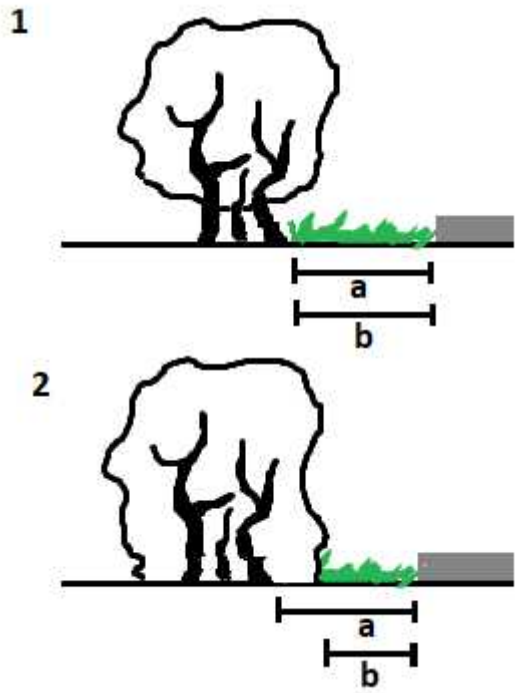
Measuring undisturbed ground and perennial vegetation

Average width of undisturbed ground, 'a'

Measure this from the trunks/bases of the woody component of the hedge to where there is any management that may damage the roots, such as ploughing or a road. Any hedgerow that is adjacent to any undisturbed vegetation such as permanent grassland or woodland will automatically get full marks for this.

Average width of perennial herbaceous vegetation, 'b'

This is a measure of the perennial herbaceous habitat at the base of a hedge that is so important for shelter, foraging and nesting animals. This habitat may be reduced by intensive grazing or herbicide use. It may include brambles, grass or other perennial herbs.



In these images, distance 'a' denotes the undisturbed ground, distance 'b' the perennial herbaceous vegetation and the grey rectangle shows where ground disturbance starts.

Diagram 1 shows a hedge where the undisturbed ground and width of perennial herbaceous vegetation are the same.

Diagram 2 shows a hedge where the perennial herbaceous vegetation is narrower than the width of undisturbed ground as the ground under the hedge is bare through shading.

Recording species

There are 4 columns in this section, which are all about recording the species you find in the hedgerow. The first two columns are recording the presence and abundance of woody species that make up the woody component of the

hedge in your 30m sample. The second two columns are to do with recording individual hedgerow trees, and this should be done over the whole of the hedge you are surveying.



Column 1 - Shrubs present

In this column please mark the presence of any the shrub species and climbers you see in your 30m hedge sample.

Where possible, identification should be made to species level, but if you are not sure please tick the "xxxx – not sure which". If there is a dominant woody species in your hedge that is not in this list, please add this to the 'other' section.

This information gives us a good insight to how species rich the hedgerow is, and gives us information about how good a food resource the hedge is for wildlife.

Column 2 - % coverage of the top 5 most dominant species

In the second column, please estimate the percentage coverage of the top 5 most abundant species in this **30m sample of hedge**. This allows us to estimate the spread of these plants in the hedge. These % do not need to sum to 100, in fact they rarely will.

Tip: this section is best done when you have walked your 30m sample and recorded all the species present. A second or third walk

Columns 3 & 4 - Isolated hedgerow trees

Please count and record the tree species in the **whole hedge** you are surveying.

Column 3 logs 'mature' trees; any tree more than 20cm diameter at breast height (dbh) should be logged as a mature tree for these purposes.

Column 4 logs 'young' trees; in this case we say that a tree less than 20cm diameter at breast height (dbh) is a young tree.

Please do not feel like you need to go in the hedge and physically measure each hedge, when you get an eye in for what 20cm dbh looks like, feel free to judge this by eye, with perhaps the occasional measurement to calibrate your judgement.

If you are looking at a multi-stemmed maiden tree, please just assess the dbh of the main stem. If the tree forks below breast height, measure the diameter below the fork. If you think you are looking at a coppiced tree, look at the diameter of the base of the coppice stool.

Please do not include woody shrubs that make up the structure of the hedge, only those that have a clear stem and are obvious as individual trees with isolated canopies above the height of the main hedge line.

This can be more challenging for hedges of H8 structure and above where the hedge structure plants have grown to a point that they could be described as 'trees'. For the purposed of this survey, a 'tree' should be an individual that is obviously managed differently from the main body of the hedge. In an over-mature hedge do not count the individuals that make up the main body of the hedge, even if they approaching what could be classed as a tree, unless they are clearly identifiable as an isolated hedgerow tree distinct from the rest of the hedge structure.

These trees must be in the line of the hedgerow or the nearest point of the tree trunk must be less than 1m from the edge of the woody canopy of hedgerow.

Once complete, you will be given a review of the information you have added and the option to go back and edit any detail before submitting the data. When you submit the data, condition assessment and management advice will be generated from your results.