



# Rapid Assessment For Grasslands

The diversity of grasslands is often based on the presence of flowering plants and grasses. Rapid Assessment was developed to be a quick survey method, and provides a snap-shot of the plants present on a site.



This leaflet explains the method. Rapid Assessment should be undertaken at regular intervals between 1-5 years. Grassland habitats differ depending on the type and origin. Annual monitoring could be undertaken on grasslands that are being restored from species-poor to species-rich. Two or three year monitoring could be used to assess plant response to management work, or as part of ongoing site assessments.

It is designed to assess the state of common indicator plants. They consist of positive indicator plants, those that we would like to find in a habitat, and negative indicator plants, those that we would want to control or see fewer of in grassland.

The survey is tailored for each site. For example, positive indicator plants in calcareous grassland plants include salad burnet, mouse-ear hawkweed and quaking-grass, whilst in neutral grassland they are betony, bird's-foot trefoil, oxeye daisy and crested dog's-tail. Negative indicator plants include nettles, thistles, docks and bracken.

Indicator plants are used to find out whether grasslands are considered to be in favourable or unfavourable condition. It is a useful measure to understand how management is affecting grasslands, and whether positive indicator plants are present and spreading across restored and recreated grasslands.

Rapid Assessment can be completed by an individual or as part of a small group ideally with a maximum of 3-4 people. If there are more people, perhaps split into several groups to complete the survey faster.

# Survey Methodology

## Equipment

- Map of the site showing the area to be monitored
- Rapid Assessment record form suitable for the site
- Clipboard
- Pencil / pen
- ID book and hand lens (if required)
- GPS (see details for some suitable mobile apps)
- To help with identification of plants please bring a couple of plant ID books.

## Risk Assessment

Please read the risk assessment prior to the survey. Bring a copy if you feel that it may be useful. If doing the survey alone, make sure that you have set up a buddy system - someone that knows where you are and what time you are expected home.

## Survey period and timing

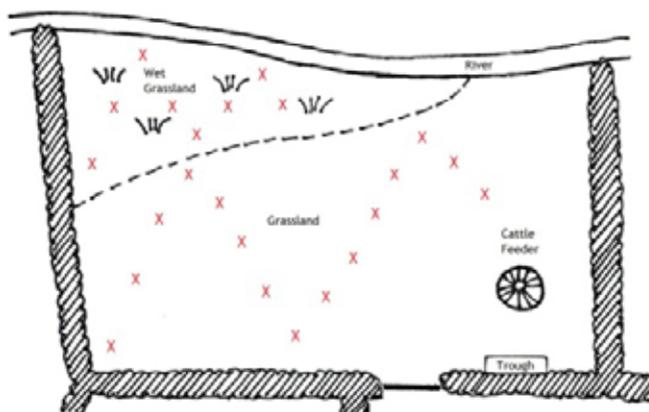
Rapid Assessment monitoring should take place when the wildflowers and grasses are in bloom to help ease identification. This is usually between May and August with the optimum time June and July before the grasslands are cut or grazed by livestock. Only a small suite of around 25 indicator plants will be monitored, reducing down the amount of time that a survey will take, but more visits should be planned if they are needed to finish monitoring the entire grassland area.

## Method

1. Go to the area marked on the map to be surveyed. Make sure that you have the right Rapid Assessment record form for this area with you provided by the project. This will depend on the type of grassland, for example calcareous grassland or neutral hay meadow, which has already been identified.

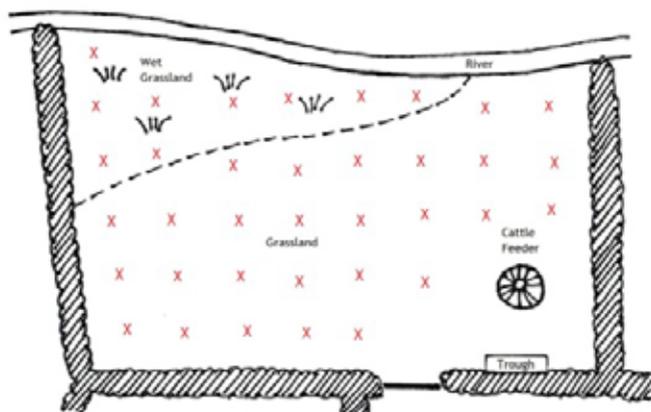
2. Start the survey in a logical manner either at one corner or at the entrance to the site. Before starting the survey think of the method in which you wish to survey the grassland. This could either be done by walking a 'W' through the grassland or in a grid pattern (see diagram).
3. At regular intervals along the walk, or at points along the grid, stop and fill in the record form. You could stop every 10, 20 or 30 paces depending on the size of the field. If a standard number of paces has been recommended for a particular field this will be included on the information provided with the map. A minimum of 10 stops, creating 10 recording points, should be undertaken in each grassland or area being monitored. This is completely adequate for the data analysis, but could be extended up to 20 stops to make sure that they are spread evenly across the field and the whole area is monitored.
4. At each recording point imagine that you are at the edge of a 1x1m square, called a quadrat. Fill in one row of the record form for each recording point, starting with the grid reference. For each species mark whether it is present or absent (this could be in the form of a Y for present and N for absent). Some of the columns may ask whether there are quantities of plant cover such as 'is a single species covering more than 50%'. In this case use the present symbol as a 'yes' and the absent symbol as a 'no' (see example survey form and explanation about how to estimate coverage). There is no need to write a coverage scale for each species, as the number of stops acts as a frequency across the field. After filling in the entire row for the recording point move onto the next recording point.
5. Carry on surveying until you have reached the end of your 'W' walk or grid pattern and have covered the entire survey area.

## 'W' Sampling Pattern



'W' sampling pattern. The wet and dry areas of the field may be surveyed separately using different Rapid Assessment record forms with different indicator plants.

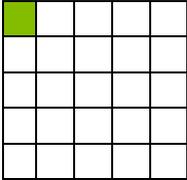
## Grid Sampling Pattern



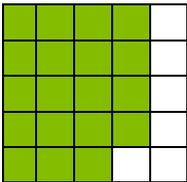
Grid sampling pattern. The wet and dry areas of the field may be surveyed separately using different Rapid Assessment record forms with different indicator plants

## How to assess a percentage cover

If a question asks whether the plant coverage is above or below a certain percentage, the easiest way to decide whether this is the case is to imagine the plant is grouped into a corner or line against one edge of the quadrat. The coverage can then be estimated depending on the number of squares filled by the plant on an imaginary 5 x 5 grid of the quadrat. Each square represents 4%.



For example, answering the question on the example form 'Yorkshire fog >5%?' would be a 'No' if 1 square is filled, as coverage is 4%.



For example, answering the question on the example form 'Single species >70%' would be a 'Yes' if 19 squares are filled, as coverage is 76%.

## Grid Reference

There are several ways of taking a grid reference. A 10-figure grid reference is needed for the most detailed fix on the location. However, you can note down a 6 figure grid reference using a close-up map of the site.

To do this you need to identify the horizontal lines called 'northings' and vertical lines called 'eastings'. These are located at every 1km interval on a map creating a series of squares covering the UK and each 1x1km square is called a monad. Grid references are easy if you can remember that you always have to go along the corridor before you go up the stairs.

To find the number of a monad, first use the eastings to go along the corridor until you come to the bottom left-hand corner of the monad you want. Write this two-figure number down. Now imagine this monad is divided up into 100 tiny squares with 10 squares along each side. Still remembering to go along the corridor mark down the number of small squares where your point falls. This creates the first three digits of a grid reference. To create the next three digits repeat this process using the northings to go up the stairs until you find the same corner of the monad. Mark down these two numbers and then imagine the monad is spilt into 100 tiny squares with 10 squares along each side. Still remembering to go up the stairs mark down the number of small squares where your point falls. To get the two letter code for the front of the grid reference look at the corner of the map. The UK is split into 100x100km squares and each of these huge squares is given a code so that it can be located across the country. Altogether this creates the grid reference i.e. Stonehenge is at SU 122 422.

An alternative way to get a more detailed grid is to use a handheld GPS unit. These can give up to 10 figure grid references with varying degrees of accuracy depending on the satellites available. Each GPS unit is different, and you may need to read the instructions to find out how to use it.

There are good mobile apps that can provide a 6, 8 or 10 figure grid reference<sup>1</sup>.

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<sup>1</sup> Apps sourced on 1<sup>st</sup> February 2015. Newer or alternative apps may be available.

For Windows Phones (and tablets);

- GPS to Grid Ref (green icon with OS on it). It currently costs £0.79 but will convert long & lat from the phone's internal navigation into a 10 figure OS grid reference.
- Grid Ref UK and Ireland (UK map icon) which will give you a 6 figure OS grid reference and is free (but not as good as an 8 or 10 figure grid ref).

For Android and iPhones (and tablets);

- OS Mapfinder (map with the OS logo on top) will project your location onto an OS map at a large scale (more detailed maps can be downloaded for a fee). By pressing on the icon hovering on your position you can get a 10 figure grid reference. This app is free (which you won't need the more detailed maps for Rapid Assessment).

All of the apps should be downloaded prior to the survey as some also require base maps to be downloaded to work (such as OS Mapfinder which needs to download the large-scale maps) and need internet access to do this. They may not be usable without downloading this background information.

All of these apps use satellite technology so you do not need to be in mobile reception to get a grid reference, but where satellite access is restricted, such as in woodland when the trees are in leaf, in gorges and tunnels etc., they may not be able to connect to a satellite to provide a grid reference, or the grid reference may be inaccurate.

If you cannot do any of these do not worry. Although this is really useful information as it will help inform management, it is not absolutely essential. Doing a survey without taking grid references is much better than surveys not being completed at all.

### Example survey form for neutral grassland

Enter the name of the grassland, date of survey and the surveyors along the top line

Site: <i>Spring meadow</i>		Date: <i>28-06-2015</i>				Surveyors:																						
Sample number	Grid reference	Sward height >5cm in June/July	Single species >70%	Herbs >40%	<5% scrub	Positive indicator spp													Negative indicator spp					Tuft grasses			Additional species?	
						Betony	Field scabious	Self-heal	Common bird's-foot trefoil	Yellow rattle	Bulbous buttercup	Meadow buttercup	Oxeye daisy	Common / black knapweed	Yellow rattle	Crested dog's-tail	Cuckoo flower / Lady's-smock	Yellow vetchling	Stinging nettle	Broadleaved dock / curled-leaf dock	Creeping thistle / spear thistle	Ragwort	Soft rush / hard rush	Bracken	Cock's-foot >10%	False oat grass >10%		Yorkshire fog >5%
1	SPXXXXXXXXXX	Y	N	Y	Y	Y	N	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	N	N	N	Y	N	N	Y	N	Y	
2	SPXXXXXXXXXX	Y	N	Y	N	Y	N	Y	Y	Y	Y	N	N	Y	Y	Y	N	N	N	N	N	N	N	N	Y	N	Y	
3	SPXXXXXXXXXX	Y	N	Y	N	N	Y	N	Y	Y	Y	N	Y	Y	Y	Y	N	Y	N	N	N	Y	N	N	N	N	N	
4	SPXXXXXXXXXX	N	N	Y	N	N	Y	Y	Y	N	Y	N	Y	Y	Y	Y	N	N	Y	N	Y	N	N	N	Y	N	N	

This is the sample point along the 'W' walk or grid pattern

Using the grid reference we can locate each recording point and see if there are any plants in particular parts of the grassland. This may help target management such as scrub and bracken control

Y indicates that the 1m<sup>2</sup> was covered by more than 40% flowering plants

N indicates that the 1m<sup>2</sup> has more than one species covering more than 70% of the ground. If a single species was covering 70% of the 1m<sup>2</sup> then this would change to a Y.

N indicates that there is no cuckoo flower in the 1m<sup>2</sup>

N indicates that there is no ragwort in the 1m<sup>2</sup>

Y indicates that the 1m<sup>2</sup> was covered by more than 10% cock's-foot

# Plantlife



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