

Wildlife Recording Kit: Soil

- Please ensure that all equipment borrowed is replaced; consider the people who are using the box after you.
- The borrower of the loan box is liable for the cost of any equipment lost or damaged.
- If anything is broken/lost, we would be grateful if you could let Surrey Wildlife Trust know as soon as possible so that we can replace this in time for the next people borrowing the box. You will be charged for any missing or broken equipment.
- Ensure that before surveying, you have the permission of the landowner to undertake these surveys.

Why survey?

Knowing the type of soil you have on site is very important as it determines what plants and wildlife will thrive and will help to inform your management of the site as well.




About the kit

This kit enables you to test the soil pH, moisture and light levels. It also allows you to collect a soil sample to send off for testing should you wish to find out more.

Before testing your soil, you can check the geology of your area using Magic Maps (<https://magic.defra.gov.uk/>). This website can provide you with insights about the sort of soil you can expect to find on your site.

There are six main types of soil: chalky, clay, loamy, peaty, sandy and silty. See below for a bit of information on each one:

Chalky	<p>@https://www.gardenersworld.com/plants/find-out-your-soil-type/</p> 	This is alkaline, stony and free draining, and often overlays chalk or limestone bedrock.
Clay	<p>@https://www.gardenersworld.com/plants/find-out-your-soil-type/</p> 	This soil goes hard and cracks when dry but warms up slowly in spring. It drains poorly and is hard to dig but high in nutrients.

Loamy	<p>@https://www.gardenersworld.com/plants/find-out-your-soil-type/</p> 	Loamy soil is not too free draining or prone to waterlogging and is full of nutrients. It is made up of clay, sand and silt.
Peaty	<p>@https://www.gardenersworld.com/plants/find-out-your-soil-type/</p> 	Peaty soils are acidic and high in organic matter. They can get waterlogged but hold plenty of moisture.
Sandy	<p>@https://www.gardenersworld.com/plants/find-out-your-soil-type/</p> 	Sandy soil is free draining so is easy to working with but can dry out quickly.
Silty		Silty soil can absorb moisture without becoming waterlogged and is nutrient dense. It falls apart when dry and becomes dense when wet.

Before taking soil samples check with the landowner (e.g. farmland) to avoid sampling soils that have been applied with lime within two years, compound fertiliser within two months and organic manure or more than 50 kg/ha of nitrogen. Avoid sampling 'hot spot areas' such as around gates, where manure has been dumped and areas where livestock gather such as water troughs if applicable. Also avoid sampling near borders, water channels and trees.

When taking samples, it is important to take a range from across the site as it can vary enormously.

When to survey

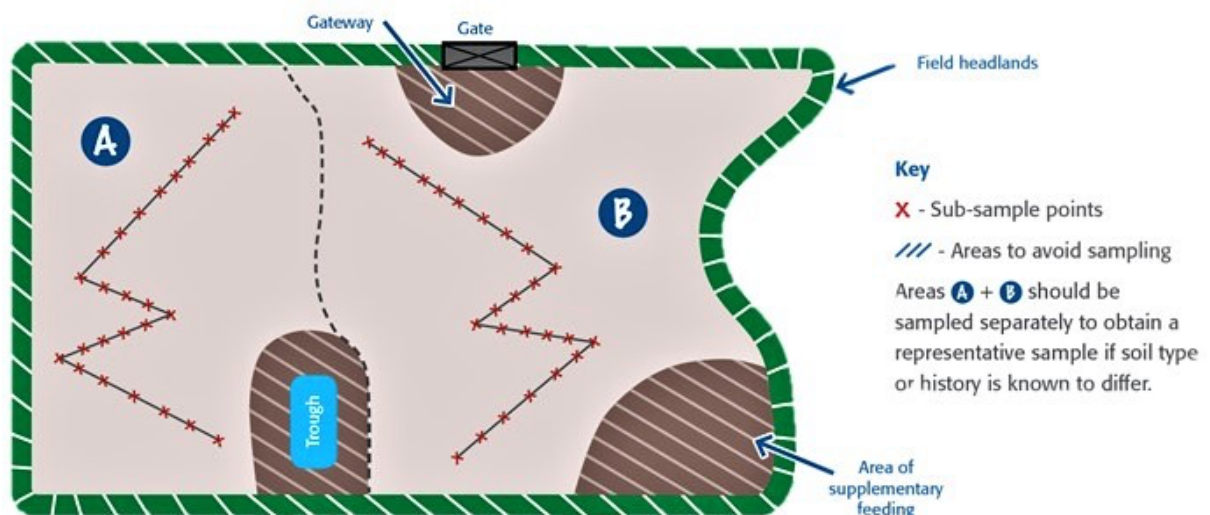
Soil samples can be taken at any point during the year.

Equipment included:

What's included in the kit?	What you need to provide
Soil corer	Sample bag and marker pen (if you want to send off the sample for further testing)
Soil tester kit x 2	
Tape measure	
Bucket	

Instructions on use:

1. Choose where you want to undertake your survey.
2. Walk across your survey area in a 'W' pattern to collect your samples, ensuring you stay 15m clear of the boundary.
3. Collect approx. 12-15 samples, or 1 sample for every 4ha (field) or 4-6 (garden) or more if collecting on a larger site.



To collect a sample -

1. Insert the corer into the ground where you want to obtain a sample.
2. Turn the corer into the ground until you have filled the corer. For arable and temporary grass the typical sampling depth is approx. 20 cm. For permanent grassland sampling depth should be shallower, approx. 10 cm, with extra care taken to exclude any vegetation from the sample.
3. Pull the corer out of the ground and empty the sample into a bucket. If part of the soil core is missing, this sample should be discarded and another sample taken within 1m.
4. Repeat this until all sub-samples have been collected.
5. Once all samples have been completed thoroughly mix the sample in the bucket - large stones, roots and plant materials should be removed.

How to process a soil sample -

1. Dry the samples only in the shade.
2. Store the samples in a shady dry place, not in direct sunlight.

How to test the soil -

1. Switch the probe to Moisture/pH/Light position.
2. Push the probe into the bucket of soil about 7-10 cm.
3. Adjust the position of the probe until the pointer on the dial swings slightly.
4. After 10 minutes, note the Moisture/pH/Light level in the dial.
 - Light intensity: 0-2000LUX
 - pH range: 3.5 – 8 pH
 - Red: 1-3 (dry), Green: 4-7 (moisture), Blue: 8-10 (wet)
5. Remove the probe from the soil and wipe clear after every use.
6. If you want to conduct further tests on the soil, you can put it into a sample bag and send off for testing (further details below).

What next?

If you want to obtain more in-depth information about the soil on your site, it can be sent to a soil testing organisation, such as [NRM](#).

Using the equipment safely

Before you use this equipment think about your risk assessment for the location and for the activities.

The following are some suggestions of hazards you might need to consider:

- Ground Surface – are there roots, holes, or kerbs to trip over?
- Weather – are participants appropriately dressed and have suitable protection from wet or hot weather?
- Plants and animals – brambles and stinging nettles can cause discomfort and participants should watch out for low branches.
- Germs – have participants got open cuts which might get muddy, and do they have an opportunity to wash their hands before eating?
- Using equipment – do you and other participants know how to use the equipment safely, is there a chance someone could hurt themselves?
- Appropriate supervision – are all children accompanied by a parent or guardian, and are they being appropriately supervised?
- Lone working – ensure you tell someone when undertaking surveys and they are aware of where you are and when you should return. Make sure you have a fully charged mobile phone and know where you can get signal.
- Group management – how will you ensure that participants don't get lost and are where you want them to be?

- Plan B – do you have an alternative activity or location if there is a problem with your planned activity?

Top tips

- Do not use the probe in water.