

Wildlife Recording Kit: Invertebrates

- 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?

At least 65% of all species on the planet are invertebrates (Buglife). There are more than 32,000 terrestrial and freshwater species in the UK alone, and many are critically endangered (Buglife). These insects play a vital role which underpins many day-to-day ecological processes. Surveying invertebrates is essential in helping to inform conservation and land management decisions that are best for wildlife.

About the kit

This kit enables you to choose how to best conduct your survey depending on what you are looking for and what you want to record.

We will detail processes for surveying a range of different invertebrates including beetles, butterflies, worms and spiders. Different invertebrates can usually be found in different habitats. Centipedes, woodlice and beetles like dead wood and leaf litter, while spiders, grasshoppers and butterflies prefer long grass. Trees and shrubs are great for finding caterpillars, bugs and flies.

The kit will allow you to conduct sweep netting surveys and direct searching.

The land you are surveying will also impact what species you'll be likely to find. Below is a summary from Buglife of the species to look for in different habitats:

Previously developed or 'brownfield' site:

- Bees and wasps
- Butterflies and moths
- Flies
- Beetles

Areas of flower rich grassland:

- Bees and wasps
- Beetles
- Grasshopper and crickets
- Butterflies and moths
- Flies

Ponds and wet areas:

- Dragonflies and damselflies

- Water beetles
- Flies
- Moths

Scrubland, hedgerows and scrubby grassland:

- Beetles
- Flies
- Moths

Mature and veteran trees:

- Beetles
- Flies
- Butterflies and moths

When to survey

The best time to undertake your survey will depend on what you are looking to survey:

- Pollinators – April to September
- Butterflies – the best time to survey is July to August
- Stag beetles – all year
- Beetles – can be found all year but best time to survey is April to October (different species appear at different times. To find out more details, you can check here: <https://www.wildlifetrusts.org/wildlife/how-identify/identify-beetles>)
- Bumblebees – March to October

Multiple searches throughout the season are recommended as different species will be prevalent at different points through the season.

Equipment included:

What's included in the kit?
Sweep net
Magnifier viewing pots x 6
Spoons x 10
ID guides <ul style="list-style-type: none"> - Garden bugs and beasties - Caterpillars - Insects - Spiders - Bees - Longhorn beetles - Butterflies - Shieldbugs

Instructions on use

Sweep netting:

This method is great for collecting shield bugs, leaf hoppers, spiders, flies and others.

1. Once in the area you want to survey, determine how many samples you want to collect and whether this will be done at regular intervals or whether you will use random sampling.
2. Sweep the net through long grass multiple times to catch anything that may be resting on the grass.
3. After each sweep ensure you close the top of the net to prevent the catch escaping.
4. Use the magnifier pots to collect the specimens from the net to identify what they are. Make a note of what you have collected and then return the specimen to the area you found it.
5. Repeat the process for your next sample area.

Direct searching:

This is one of the easiest searching methods to use when searching for invertebrates. This method can include looking under shelters such as rocks and logs and searching through vegetation. Just remember to put anything you've moved back where you found it gently.

1. Once in the area you want to survey, determine how many samples you want to collect and whether this will be done at regular intervals or whether you will use random sampling.
2. Start looking in your survey patch and collect any insects you find into a magnifying pot.
3. Once in the pot you can start to identify it using number of legs, any markings and it's size.
4. After you have identified the invertebrate, note this down and then return it to where you found it.
5. Continue for all the other invertebrates you find.

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

- When using a sweep net, sweep it back and forth quickly in a figure of eight to ensure the insects stay inside.
- Don't use the sweep net in brambles as it can get stuck here.

Protected species

Buglife have created a summary document of all protected invertebrate species:
https://cdn.buglife.org.uk/2019/07/Policy-and-legislation-summary-final-2014_0.pdf